AMAZING STORIES

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Mechanocracy
By Miles J. Breuer, M.D.

Other Scientific Fiction by:
Capt. S. P. Meek, U.S.A.
Bob Olsen
John B. Harris

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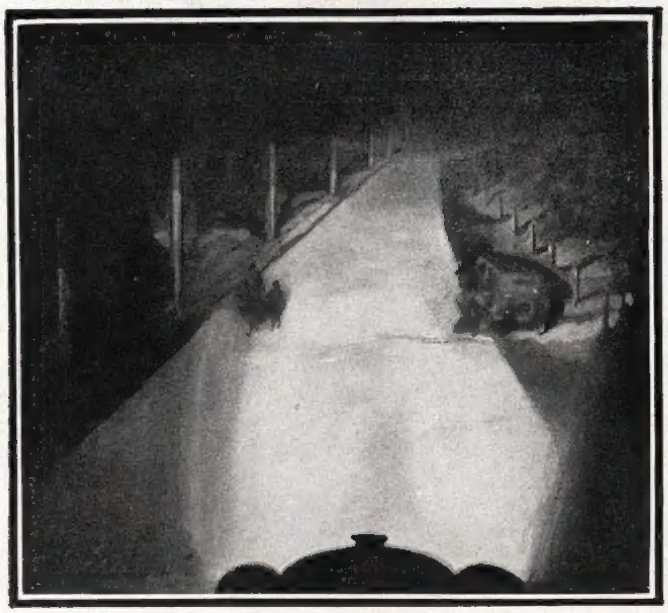

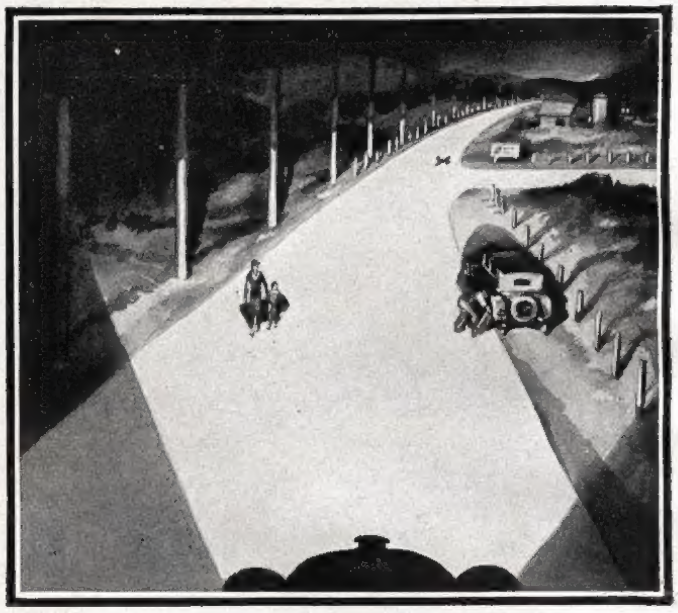

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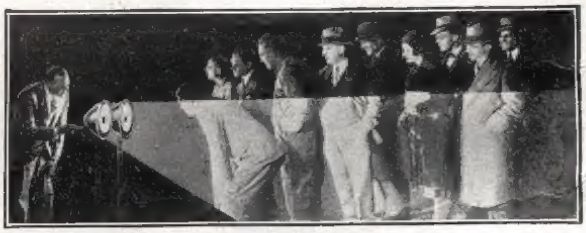

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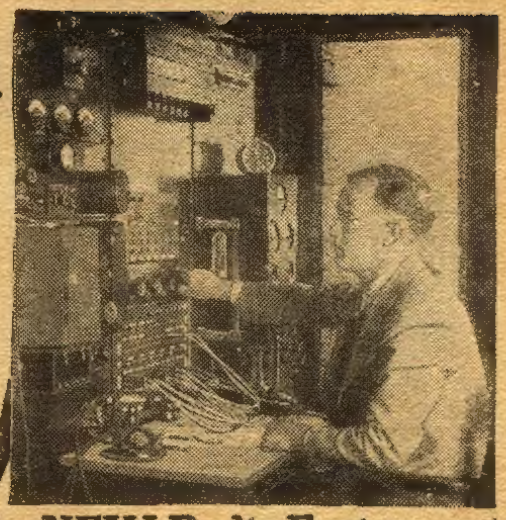

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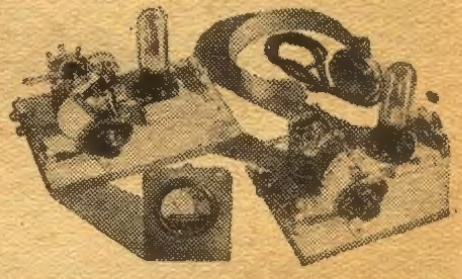

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AMAZING STORIES

Scientific Fiction

Vol. 7 April, 1932 No. 1

In Our Next Issue

THE METAL DOOM, by David H. Keller, M.D. (Serial in three parts) Part I. In an almost perfectly appointed world, scientifically and mechanically speaking, living has become a greatly simplified matter—with reservations, of course. Accidents are liable to happen, naturally; serious ones. How would we all—intelligent beings, who believe that we can easily adapt ourselves to changing conditions—react to a drastic change?

WORLDS ADRIFT, by Stephen G. Hale. During a recent trip in California, Mr. Hale tells us, he quite by accident received his inspiration for this much-called-for sequel to "The Laughing Death." A more detailed account of this experience will be found in the Discussions columns.

THE RETURN OF THE TRIPEDS, by Neil R. Jones. It seems hardly necessary to say anything beyond mentioning the author and the name of the story. Here is another story in the Jameson series—complete in itself—in which we learn of developments more amazing than anything that has happened to the professor before, and we learn the secret of "the planet of the double sun."

THE LEMURIAN DOCUMENTS, by J. Lewis Burtt. No. 3. Daedalus and Icarus. Here is the third in the series of mythological stories brought to us in modern manner, which makes us wonder once more just when some of our miraculous inventions of the present day really were started.

THE PERFECT PLANET, by Miles J. Breuer, M.D. All things which might be sent us from outer space are not necessarily sent for our doom. Strangely enough—or perhaps, naturally enough—it is not a scientist who discovers the value of this particular "gift" from the skies.

And Other Unusual Scientific Fiction

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Our Cover

this issue depicts a scene from the story entitled, "The Lost Machine," by John B. Harris, in which the strange tentacled metal construction that definitely showed intelligence is testing the atmosphere of this, to it, new world, and is about to start preliminary investigation for its master, who took the unhappy precaution of staying within his space machine.

Cover illustration by Morey

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"That coupon became a

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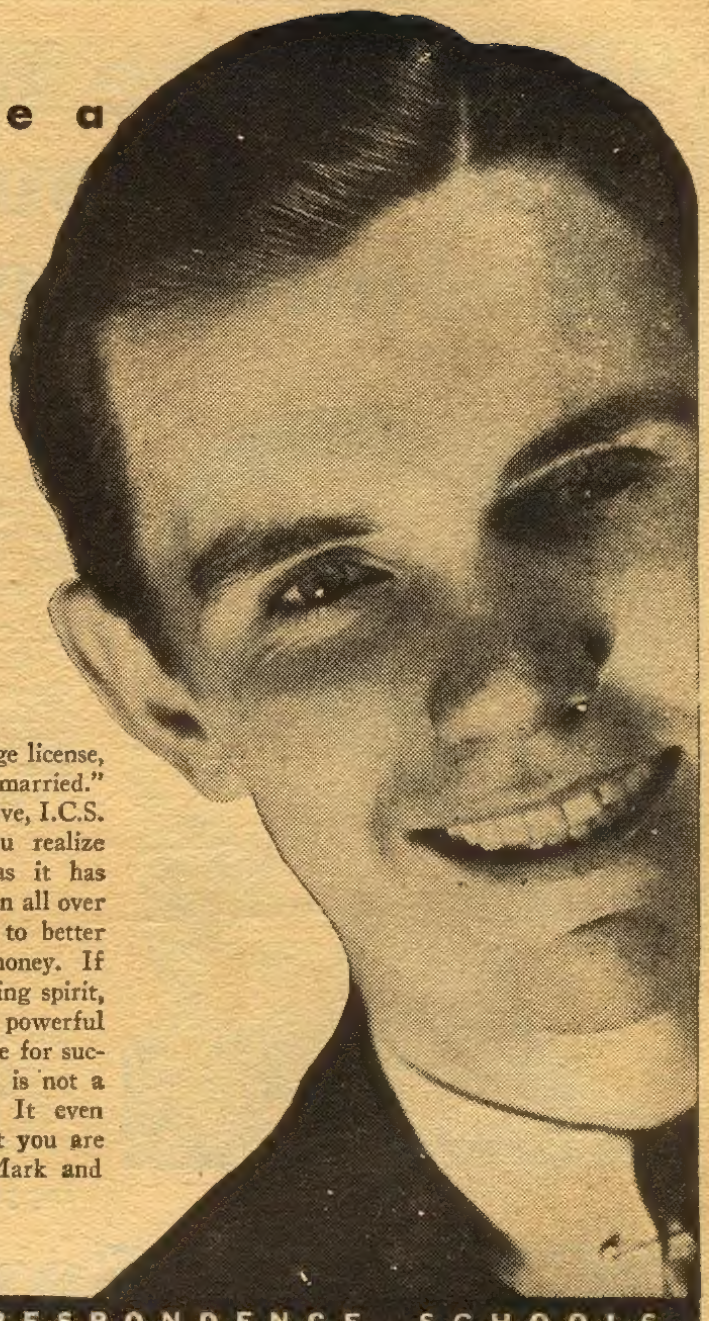

"THERE was only one reason we had not already married—money, money! I was desperate, there was no prospect of a raise on my job. The sad truth was, I knew *that* job was paying the limit. We discussed *our* fix.

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VOLUME 7

AMAZING STORIES

THE MAGAZINE OF SCIENTIFICTION

APRIL, 1932 No. 1

T. O'CONOR SLOANE, Ph.D., *Editor* MIRIAM BOURNE, *Managing Editor*

Editorial and General Offices: 350 Hudson Street, New York, N. Y.

Extravagant Fiction Today - - - - - - - - - Cold Fact Tomorrow

The Corner-Stones of Chemistry

By T. O'Conor Sloane, Ph.D.

THE discovery that a chemical combination was the addition of two or more things and that the combinations were always in the same ratio of weights or of multiples thereof, were so much the basis of modern chemistry that it is taken as the foundation stone of all we know. Simple and obvious as it seems, the centuries of work of the alchemists and scientists of olden days got them nowhere, and it was just during the breaking out of the French Revolution that Lavoisier in Paris and Priestly, who had recently come over from England to America, had made the discovery each independent of the other. Priestly did his work in Pennsylvania. Lavoisier did his in Paris, so naturally enough America claims the beginning of chemistry, as also does France.

Lavoisier was connected with the government of France as a Collector of the Revenues and naturally, being a distinctively great man, he improved everything he touched. One of the great things wanted in those days was potassium nitrate for making gunpowder, and he improved the collection of this and did away with the very obnoxious system of visiting the cellars of private houses in the hope of finding sources for the salt. But when the Revolution broke out, the work Lavoisier did for the government on the side of its revenues told against him, and he was beheaded; he was one of the purest characters that the French Revolution sent to the guillotine. There is a story that he wanted to complete some chemical experiment before being executed and that he was not permitted to do it. He was told that the Republic had no need of chemists. A decade or two later they found out that they had great need of chemists.

One of the necessities of modern life is soap, and to make hard soap, as distinguished from soft soap, sodium carbonate is an essential, so when France was cut off from Spain in her wars with England she was cut off from a supply of the seaweed called kelp. This seaweed used to be collected in enormous quantities and its ashes yielded sodium carbonate. A prize was offered for anyone who developed a process of making sodium carbonate from salt, of which sea water alone would provide an endless quantity. France most emphatically needed a chemist and found one. LeBlanc, a French chemist, developed the wonderful soda-ash process which gave the desired alkali from salt. It was a revolutionary discovery and the date of the patent for it is 1792. Apparently the country did need a chemist.

Although the process is largely superseded now, at one time it was probably the greatest chemical industry of the world, and there was an old saying apropos of the development of this process, to the effect that the civilization of a nation could be judged by the quantity of soap it made. This is because the amount of soap it produced indicated the development of the LeBlanc soda ash process.

Lavoisier had been guillotined and poor LeBlanc, worn out with disappointment, committed suicide.

These episodes in the history of chemistry seemed to have led us a little astray from our subject, so we will try to return to it.

The establishment of the weight-relation of the constituents of compounds lead to the development of the table of atomic weights, so we see that chemistry originated as a science of weights and the chemist's balance, in a sense, became the symbol of the new science.

Water was found to consist of eight parts by weight of oxygen, to one part of hydrogen. A slight discrepancy in the hydrogen was not discovered for many years. Accordingly it was said that the water molecule consisted of an atom of oxygen combined with an atom of hydrogen, and with the rapid development of chemical formulas this was accepted as the truth. The Italian chemist, Avagadro, early in the last century brought out the theory that equal volumes of all gases at the same temperature and pressure contained the same number of molecules. Now it is a very simple thing to decompose water by the electric current and to collect the oxygen and hydrogen, each in its own receptacle for measurement. It was found that there was exactly twice the volume of hydrogen in water that there was of oxygen. Avagadro's paper was published in 1811. Water had always been called HO and the whole structure of chemical formulas was built up on this basis. In the middle of the last century the new system, as it is called, which gave water for its formula H_2O, modifying a vast number of chemical formulas, was accepted by the more modern chemists and quite a war was waged between the two schools as we may call them. It is interesting to note that in the sixties of the last century the authorities of Columbia College, in New York, for it was not a university then, passed a resolution adopting what was called the new system, in which water was H_2O instead of HO.

Lavoisier and Priestly had made chemistry a science of relative weights and these weights applied whether the substance was solid, liquid or gaseous. After Lavoisier's and Priestly's work, the relation of volumes of substances in the gaseous state was developed by Avagadro, thus further modifying chemistry.

The relation of weights of the atoms and molecules followed by the identity of size of molecules in the gaseous state, were the corner-stones, for it now had two, in chemistry, and it had taken the intellect of man 2,000 or more years to find this out and convert alchemy into chemistry.

By

Miles J. Breuer, M.D.

Author of "The Man with the Strange Head," "Paradise and Iron," etc.

ALTHOUGH marvelous strides have been made within the last fifty years in the field of mechanical invention, we must admit that we are merely at the brink of the Machine Age. What the future holds for us, nobody can tell definitely or surely, but some of those psychologists and scientists who let their imaginations roam into the possible future see things—remarkable things—to which they react with much misgiving. Machinery that standardizes production may in some way extend itself too far in standardizing life. It is a problem worth considering now—whether a muddling government that still permits initiative and self-reliance is not preferable to a perfectly standardized machine government. Dr. Breuer sees his side of the problem clearly and gives a most vivid picture of such a possible future.

Again there were no people. No bawling speakers. No gongs. Only the open mouths of pneumatic tubes, and endless rows of them, each marked with its destination.

Illustrated by MOREY

Mechanocracy

CHAPTER I

"QUENTIN SMITH LAKEMAN, the Government regrets your personal feelings and sympathizes with your relatives, but finds it necessary to condemn you at once to euthanasia."

As the mechanical voice that came from the orifice of the speaker ceased, Quentin Smith Lakeman turned pale and an icy pang shot through him. Through the dazzling lights that danced in his brain, he could see his three companions standing there gasping as a result of the sudden, crushing sentence.

He had expected some kind of a reward for his year of hard work, danger, and hardship spent in the service of the Government. Not that he expected machinery to have any gratitude; but above all, the machine is logical and just, and there were rules for rewarding special effort such as his.

"Democratia must be promptly and completely destroyed," the metallic voice of the speaker continued. "From your report of your investigations in that country, it is clear that its people will never consent to standardize themselves, and that they therefore constitute a menace to our standardized World Government."

Quentin—to call him by his "intimate" name, for in the twenty-sixth century everyone had an intimate name, a family name, and a public name—was flung down and crushed again by the announcement of the fate of that gallant country in which he had just spent a year. It seemed that his heart would stop beating then and there, for Democratia held Martha, who in that one short year had become more precious than all else in the world. He looked beside him at Jack, her stalwart eighteen-year-old brother, who had journeyed back with him as a guest to Washington, the Capital of the World.

"The Government appreciates the very efficient efforts of Quentin Smith Lakeman," the voice went on. Quentin knew it for the empty formula that the machine adopted in order to appeal to the emotions of human beings with whom it dealt. "It understands that this decision is emotionally difficult for living beings to bear. But, you have spent months in Democratia, and acquired a considerable tinge of individualistic ideas and customs. It would be dangerous to our institutions to turn you loose among the people now. And, as Democratia will soon cease to exist, prompt euthanasia is the only solution."

Utter silence followed. Even the faint crackling of the speaker ceased, showing that the connection was off. Quentin turned to Jack, whose burly form towered above the rest of them, and whose countenance showed a bewildered inability to grasp what it all meant.

Just then the door opened and a police captain came in, followed by a squad of men in blue uniform. Quentin recognized the captain as Guy Sherman Sentier, an old and close friend. Sentier stopped short and turned pale.

"You?" he gasped as he saw Quentin. "My orders are to take four people out of this office to the Euthanasia Chambers! What have you done?"

"Nothing!" said Quentin, calm by this time. "Go ahead. It's your duty. All I've done was to do mine."

"Terribly sorry," said Sentier faintly. He motioned to his men, and turned his head away.

The policemen came up, one of them grasping Jack by the arm. Jack whirled around and knocked the fellow across the room as easily as shaking off a rat. Then he leaped away from the group that had come in through an outer door, and in a moment had disappeared through a door leading into the interior of the building. The clatter of his swift footsteps died rapidly away into the muffled distance.

For a moment the policemen stood aghast. They did not know quite how to behave, for never in their experience had a prisoner made so bold as to try to escape. With the world rigidly standardized and moving as one unit, what hope could there be of escape?

At a shout from the captain, they became active and scattered through doors and windows in pursuit, each with his thin black rod.

The three remaining captives were handcuffed and a man left in charge.

Quentin waited in patient resignation, for he knew it could not last long. Can one escape the lion in his own den? The very walls of the building would combine to hunt down the fugitive.

But the boy must have been swift and clever. Minutes lengthened into an hour; the guard stood stiff, mechanical, embarrassed. The huge building was silent save for vague mechanical sounds. Then a faint shout came across a courtyard through a window, and Quentin could see Jack climbing down a drain pipe from the roof. Two figures appeared on the roof above him, and others ran out of a door near by and waited for him on the ground. As Jack came down within reach, one of the guards touched him with the end of his slender, three-foot rod. Jack dropped to the ground, limp and paralyzed. In a few moments he was wheeled into the office on a small cart, one of the policemen holding the rod in contact with Jack's arm. The boy lay helpless, his eyes gazing mute inquiry into Quentin's.

"No use, Jack," Quentin said to him. "You're among civilized people now, you know. You're no good against police equipment. Promise them you'll go quietly and they'll let you up."

The policeman lifted the rod an instant, giving Jack power to nod his head in promise. Thereupon the policeman put his rod away, and Jack stood up and looked about abashed. As the police led their captives out, Sentier called after Quentin:

"You don't hold this against me personally? May I visit you?"

"Come. I shall be glad to see you," Quentin answered philosophically. "Why should I blame *you*? You're a tiny cog in a huge machine."

AS the captives were led into a barred and guarded plane, Quentin put his arm about Jack's big shoulders in sympathy. He looked young to die; and it seemed like a betrayal, to be brought from that wild country to see the wonders of the civilized world, and find this. As the plane rose and headed for New York, where the euthanasia facilities were located, Jack seemed more absorbed in looking down at the Government Buildings which comprised the whole city of Washington, than in the thought of impending death. He looked at Quentin with bewilderment in his face.

"That square massive building just below us is the one we were in? And you say that is the center, the brain, the key of the whole World Government?"

"That *is* the Government," Quentin replied. "Just as your brain is you. These other countless acres of buildings are merely its arms and fingers and eyes and ears. Without this building they could not function, and the world would be chaos."

Jack stared down fascinatedly.

"And yet," he breathed in amazement, "I ran through miles of corridors, passed hundreds of rooms full of apparatus and instruments, and not a soul did I see."

Quentin nodded in confirmation.

"For an hour I ran, and by the end of it I was caring less about being caught than about finding some people about in these buildings. Is there no one?"

"No one," Quentin replied.

"And yet you say it's the Government!" The boy seemed dumfounded.

"After all my explaining," Quentin said, "haven't you realized that the Government is merely a huge machine, made of metal and rubber and glass and run by electricity and light and heat?"

"But—but how can machinery govern the world?"

"Better than human beings can. Even your business men in Democratia use machines to help them run their businesses; their offices are full of automatic machines for managing a business, time-clocks, adding-machines, bookkeeping machines, cash-registers, dictaphones—no end of them. The Government Machine is not *essentially* different. Merely a little more automatic and a little more complex."

"And are all the people willing to be governed by a machine?" It was all amazingly strange to Jack.

"They cannot conceive of anything else," Quentin explained. "For three hundred years they have grown up in it. They are intensely loyal to it, because it not merely governs them as you understand the word govern; it takes care of them as a mother takes care of children."

"They seem to be happy," Jack observed.

Quentin nodded down toward the beautiful countryside over which they were flying at a swift rate. The green fields were intersected by broad roads and huge power lines, and the blue bulk of a city loomed on the horizon.

"The world is more prosperous than it has ever been before," he replied. "Life is thoroughly comfortable, absolutely safe and certain. But you would call it monotonous. Everybody does everything by rule and schedule, all alike, the world over. Standardize. You wouldn't like it."

"I couldn't stand it!" Jack exclaimed.

"Your country, Democratia," continued Quentin, "is made up of the descendants of people who couldn't stand it. During the development period of machine government standardization, the democratic-minded people, who could not fit into it, were having a hard time. They were persecuted and driven from one place to another."

"That's unjust!" Jack was thoroughly democratic.

"They were a small minority. The rest of the world was in earnest; it was afraid of annihilation by war. So it built cities on a standard plan, streets and buildings all alike. From New York to Hongkong people live on the same schedule and think by the same rules. That is easier to manage by machinery. Safer. More comfortable."

Jack gazed for a while at the swiftly receding landscape below.

"Then why is the Government picking on Democratia now?" he asked.

"It had to come. For some centuries your country in Central Tibet was left in peace because its founders sought the remotest possible isolation. Our Government had its own problems. But, step by step it is striving constantly to perfect the world. Apparently the step has arrived in the process when it is time to remove the only exception to world rule."

"And it sent you over there?" Jack shook his head, puzzled.

"Remember that the Government has no emotions nor prejudices. It works absolutely by logic. It is always perfect in its fairness. A decision on Democratia needed all possible informational data. As communication channels do not extend into Democratia, men had to be sent in."

"And when you do a good job, you get killed for it."

"Logical, though, is it not?" Quentin could be impersonal when discussing the Government Machine. "Now I see why it warned me so emphatically that I was risking my life and gave me repeated opportunities to decline the assignment if I wished to."

"Risking your life? In Democratia?" Jack exclaimed.

"Not at all, although that is the way I understood it at first. The Government needed a resourceful man for the job, and resourceful men are rare in our civilization. I was the best bet—don't laugh at me; I know how helpless and clumsy you think I am—I took my risk and lost it. For, this world cannot permit a resourceful man to live in it."

Jack hardly heard the conclusion. He was gazing in open-mouthed wonder at the huge, solid mass of New York City that loomed ahead, the cliffs of buildings, the surging masses of people and machinery. The plane glided swiftly up above the dull, drab roofs, and landed on the top of a building, guided by a long black streamer at the top of a tall flagpole. Surrounded by guards, the four men were led to an elevator, descended a score of floors, and entered the Euthanasia Chambers.

The furnishings and appointments here were the last word in beauty and luxury. The soft carpets, the rich hangings, the luxurious furniture, the flowers and scents and colors, the foods and wines within reach, all had a tendency to lull the occupants into a sense of peace and drowsy comfort. Each of the party was led to a room where he was to be given twenty-four hours for receiving last visits from friends and relatives. Jack and Quentin elected to remain together in one room.

"Lovely, isn't it," said Quentin ironically. "A year ago its beauty would have stirred my emotions. But your rugged land has cured me. Now I can see the steel and concrete through the velvet, and see it just as an

undertaking establishment which you enter alive and leave dead."

Sentier arrived presently. Without his squad of policemen he was not a very impressive man. He almost wept as he greeted Quentin. It looked almost as though he were the one sentenced to death.

"One's duty demands cruel things," he moaned. "Arrest your best friend!"

"I wouldn't do it, that's all," Jack exclaimed.

Quentin patted the boy's back.

"Yes you would," he reminded, "if you and a dozen generations of you had been raised like machines to obey the Government Machine and be loyal to it above all."

Noting Sentier's depressed looks, Quentin offered to relate his adventures in Democratia, and Sentier eagerly grasped at the opportunity to relieve the tension.

"Get a permit to broadcast as much as possible of it," Quentin suggested. "It is a beautiful land and a wonderful people that are about to be destroyed. But, suppose I tell you? What if you sympathize? That will be treason, and you will be—eliminated."

Sentier smiled.

"No danger," he said. "That is why you were sent out and I am a police captain. If I can arrest my best friend in cold blood, how can I sympathize with a distant land and a strange people?"

"In other words," Quentin mused again, "the Government picked me out to die when it selected me for the job?"

"That, of course, depended on what you would find there."

Jack clenched his fists. A frown gathered on his forehead. He glared at the policeman, who was an embodiment of the Government that killed an efficient man for doing his duty, and to whom machines were more important than men. Quentin watched the boy as he talked. Vague possibilities stirred his imagination. What if he might see Martha again? He, Quentin, had the brains for a daring attempt, but not the physical courage. Jack had boldness enough for anything. Quentin worded his story quite as much for its effect on Jack, as for Sentier's benefit.

CHAPTER II

"JUST a year ago," Quentin began his story to Sentier, "I was called into that same office in Washington and given my instructions. I was offered the chance to refuse without stigma. That I thought ridiculous, for it seemed a wonderful opportunity. I am cursed with a love of adventure, which is a terrible affliction in this monotonous age. I was to spend a year in Democratia, and then come back and give a full report on the life and customs of the country.

"I was so excited that I came within a hair of giving away a secret, and probably with it, my life or liberty. This love of adventure had boiled up within me from youth. For years I had planned some sort of a wild deed. Bit by bit I had secretly assembled an airplane in an obscure cellar on Long Island. It lay there at the moment, with fuel and provisions ready to start, equipped for a rough, uncertain trip, instead of for the scheduled routes which have been carefully standardized. I had an impulse to take this plane for the trip, but a flash of judgment told me that it would be dangerous to reveal my secret.

"I was ordered to take my official plans, which I owned according to my rank and standing. I was not permitted to take my own mechanic; Binder and Steele were assigned as mechanics and Neatman as Secretary. It was all very simple. The three men arrived at my home early one morning; we taxied out of my garage, flew across the city, and out over the Atlantic. Because of the rigid standardization of men, methods, and machines, the mechanics had no need of seeing either me or the plane before the moment of starting.

"We made a quick trip, and I paid little attention to my surroundings during the most of it. The cities look the same and the people act the same everywhere as in New York. Only when we reached the Himalayas I began to feel my first thrill. Those vast stretches, without a city for hundreds of miles, are romantic. We located the Tagnapo River and the ruins of Llhasa, once a large and powerful city; and struck due North into a wild desert where no one ever goes. After some hours of searching, we located the green valley completely shut in by vast mountains and saw the cities of Democratia.

"There were three large fine ones and a dozen smaller towns, and a sprinkling over the whole land of what must have been villages. Think of it, Sentier, they live in villages! Little collections of a few tiny buildings. Most of the world used to do that a thousand years ago. And even the three great cities of Democratia were not modern as our cities are. They were not built in units. Each building was of different height and size, and they had open streets in single layers. But it was a wonderful looking land. Think of it, lying hidden away there, and the world knowing nothing about it; its bold, resourceful men, its sturdy and beautiful women. When it is puffed out, no one will feel a pang of sympathy for it.

"There were no diplomatic relations between the two governments. Credentials were of no use to me, and I received none, nor did I receive any sign of the usual string of rules, instructions, and minutiae. The whole thing was left up to me; and during the whole of the trip over, I pondered on some way of approaching the people of Democratia. I pondered in vain. I knew nothing about the people and their country, and could form no plan. So, I first took a good look at the country from an altitude too great for them to see me. Then I decided to land in some uninhabited spot and spend a night resting and planning. I chose a flat place low down between two tall peaks, near the northern rim of the mountain-surrounded country. A hundred miles away was one of their largest cities.

"We alighted on grass and the air was cold. But we had warm clothing and the cabin of the plane was heated. The beauty of the prospect was worth the cold. The vast, grassy plain, the woods half a mile away, the huge, snow-patched mountains in the opposite direction—we live too much cooped up in cities, Sentier—it took my breath. The others were also impressed, and we had to expend our emotions in a walk toward the woods.

"I ought to have known better. City men have no business in the wilderness. Oh, yes, we took our shock-rods along, and I took an old-fashioned projectile pistol. Half way to the trees we heard a tramping behind us, and turning, beheld a huge goat with winding horns charging for us at full speed. The animal raced swiftly toward us as we stood paralyzed by fear. It seemed to have picked out Steele, and tore right at him. Steele

took it coolly enough, and faced the charge with his shock-rod. It paralyzed the goat on contact all right, but it could not stop the momentum of the great, charging body, which rolled crashing on, crushed Steele under it, and nearly got me. I got a bullet in the goat's head before it could get up, astonishing my companions with the noise of the shot. Steele was dead, smashed, when we reached him.

"The sound of galloping hoofs reached us. More goats were coming. We ran for the woods because they were nearer than our plane. Later I got used to the looks of these goats. They are not particularly dangerous. But to us, just then, they were huge, frightful monsters. We're not used to seeing large, live, free animals. Our frantic fear made us act foolishly.

"At intervals I turned around and shot bullets at the goats. Just now that is laughable. I had no skill with the weapon. My shots went wild. But it helped a little, for the noise confused the goats and retarded their speed somewhat. We reached the trees and hurried far into their depths. The goats did not follow, because their horns got tangled in the growth.

"Then, when we had gotten our breath after such unaccustomed exertion, and had waited long enough to give the goats time to wander off, we started back. We walked on through the trees toward the plain, but came to no end of them. We were lost!

"The terrors of that night will be stamped on my memory forever—well, that won't be long. First of all it was cold. We huddled together. Some of us thought of a fire. None of us had ever seen an open fire; but we had read of ancient savages making fires by rubbing sticks. We rubbed sticks till we were exhausted. Of course it was silly, for we didn't even know the difference between green and dry wood. We therefore crowded together on the ground, shivering as much with terror as with cold. There was no sleep for us. The noises of the woods, from clicks and crackles to roars and yells, sent grip after grip of fear through our hearts. Sentier, these tales you read of people dying from pure terror are not true. If such a thing were possible, we would all have died the first quarter of the night. Yet, these Democratians spend night after night in the woods and enjoy it. We are just too much pampered by our machines.

"A party of them had camped, not half a mile from us, that night, just too far for us to see their fire. They wrap themselves in blankets and leave one person on guard, and sleep soundly all night. They found us in the morning, numb with cold and dumb with fear. The first I knew of them was a musical voice calling:

"'Quick, Jack!' with a little *Oh*-like intake of the breath. 'Someone in distress!'

"I looked up. Approaching was a girl in corduroy breeches and high-laced boots—antiquated, romantic. A knapsack. An old-fashioned rifle for shooting bullets. But there was a glow of health in her cheeks that made the chemical beauty of our girls seem ridiculous. To me, that moment, shivering in hungry, hopeless despair, she was the most beautiful, radiant being I had ever seen or imagined. She was the sister of Jack here. He was with her."

QUENTIN looked about the velvet draperies that concealed their prison walls, as though it were hard to believe that it all hung together somehow. He sank his face in his hands for an instant. Sentier was embarrassed. Sentier could sympathize with the love affair. Men of his day were experts in those. Quentin did not even look at Jack, and in a moment had thrown off the mood, and continued:

"They had us comfortable in a few minutes. Jack and his father came up very soon. Before our eyes they made a fire. Sentier, you ought to see a fire before you die. They boiled coffee and eggs. Did you ever eat an egg, Sentier? The delicious odors, the warmth of the fire, the beauty of the girl who was on an equal with the men in strength and efficiency, and had no simpering feminine wiles about her—I was sold on Democratia from then on.

"'Who are you, and whence are you?' was their first question.

"'Just on a pleasure cruise,' I put in quickly before any of the rest of our party could speak. 'Bound nowhere in particular. We liked this spot and wanted to look at it more closely, and got lost. We spent all night in the woods."

"'Unarmed? Without fire?' The girl looked worlds of sympathy at us.

"'We're city folks, not used to being out,' I said.

"'So are we city folks—' Jack began, but his father silenced him with a look.

"They persuaded us to come to their camp, and promised to find our plane. After some sleep and rest I began to notice things. There were a dozen people in a tiny house of logs on the mountain. They were living there for a month. They had no heating system. No lighting system—depended on open fires. No kinephone service. No tube delivery. Not even properly prepared food. They ate just animals and plants boiled over a fire. No transportation; they walked everywhere. Yet they were enjoying it. Doing it for pleasure! Can you imagine it?

"And can you imagine *me* enjoying it? I got interested early. I learned to build a fire. Too bad there's no place around here to build a fire. I learned to shoot a rifle. Much more thrilling than a shock-rod. At the end of the month I could walk ten miles and enjoy it. I could sleep out all night and make my own breakfast. Compared with these people, though, Sentier, I was helpless. Compared with them, all of us are helpless. Little helpless larvae, such as ants carry around.

"We depend for everything on machinery and on our Government. The Government gives us food and water and amusement and its machines work for us and take care of us. Without its care we would die in a few days.

"These people haven't much government: a ridiculous meeting of so-called representatives once a year, which spends most of its time arguing and never gets anywhere. They have 'laws' which they obey when it's convenient and possible.

"But they don't need a government. We do. They can take care of themselves. With their own individual hands they can grapple with Nature, and wrest life and comfort from her trees and rocks and beasts. Jack here is only eighteen, but he could probably take you and break you up in short pieces. Don't grab your rod. He knows it won't get him anywhere. He could probably go several days without much food or sleep. Ever tried that, Sentier?

"We may have a wonderful civilization, Sentier, but as individuals, we're feeble sprouts. What's the good of

all these millions of us, all alike? Humanity by mass production. What would be the loss if they all died today?

"We were taken to the largest of their cities, a primitive sort of place with individual buildings and individual cars running about. Jack's father was a high government official and had been vacationing in the mountains. He was a rugged and kindly man, very much concerned about the welfare of the people over whom his authority extended. He took us to his home and shared its comforts with us. Imagine that, Sentier! Taking a total stranger into your home, having him eat with you, sleep in your rooms!

"It wasn't long before I found myself in an uncomfortable pickle. These people were kind to us, doing all they could to make us feel at home. Friendly. Couldn't help loving them. And here I was spying. Preparing to betray their kindness to me. For, much as I liked their country and their ways, I knew that the Government Machine would not. I spent several weeks of torture.

"Furthermore, I was supposed to stay there a year. It was not plausible that even idle tourists would tarry for a year by the wayside. They would wonder, why didn't I go on?

"The father of Jack and Martha noted my worry and depression. He asked me about it, with blunt primitive directness.

" 'There is something about your situation here that worries you,' he said. 'Tell me what it is, and I can help you.' See? None of the roundabout diplomacy that we're used to. He got the whole story out of me.

"The deep lines in his face, with its little fringe of beard, made him look very wise and very kind. You've never seen a man with a beard, have you, Sentier? It adds dignity.

" 'The only thing for you to do,' he said, 'is to stay and do your duty. We'll be friends, because we like you and know you can't help it. Go back when the time comes. If you don't, they will send others, who may be more dangerous to us than you are.'

"Then I was more at peace, until the time approached to go. I kept my Secretary busy writing up notes, and the mechanics keeping the plane in condition. I went around doing my best to study the country. I learned about money and buying and political parties, about poor people and unemployment. I learned to drive one of their little cars. I actually held a 'job' and made my own living for a few weeks, though I think my employer was glad to get rid of me. But most of the time I was a 'guest,' an exception to the prevailing conditions in which everyone had to hammer out his living with his own hands or starve.

"I took long trips through their country in great steel carriages that run on rails. Martha accompanied me almost everywhere. She had been charming that first day in her rough hunting suit when she found us nearly dead; she was charming later in a thousand ways, in soft and long gowns, dancing to spirited music; in athletic white, vigorously playing a very active game called tennis; she knew her people and her country thoroughly, and was my guide and teacher in my studies.

"At our first meeting I was weak and helpless and half dead; she was sturdy and resourceful; I looked up to her on dizzy heights above me with a hopeless, sorrowful feeling. Ten months later, physically fit to look after her safety, I took her on a glacier-climb, paying all the expenses with 'money' I had 'earned' myself. There's a pride in earning money, Sentier; too bad you can't try it.

"We have practically eliminated wild animals from the rest of the world, but these people preserve them and limit their destruction for the sport of hunting them. It is a dangerous sport. Martha and I never suspected any danger, when we were climbing up the easy ice-slopes in a frolicking fashion. She was ahead, around a point of ice and out of sight, when I heard her screams.

"I hurried up. Two white bears had attacked her. One had her rifle in its mouth and was pawing and crunching at it. The other had her down and was rolling her back and forth with its front paws, and tearing playfully at her clothes with its teeth.

"Then they saw me. Both snarled. The one with the rifle dropped it and came at me. These creatures looked clumsy, but they can move. The thing was on me before I could unsling my rifle, and I went down under it. As the beast pummeled me, I scrambled for the long hunting-knife which I had learned to wear at my belt as do all of these people out in the open. I plunged the knife into his ribs a dozen times before he finally dropped and slid down the icy slope. I was completely soaked in his blood.

"By this time Martha was also jabbing with her knife and was bloody from head to foot, but the bear was still going strong. She was cool enough, but concerned about her face. She held up her arm to protect it from the animal's long claws, and this interfered with her knife thrusts. I finished him with three jabs and he crashed down on her. When I dragged him off, she did not get up, but lay there moaning.

"She had a broken leg. I—a product of this effete civilization, pampered by the Government Machine, raised like a lily in a hothouse—I splintered her leg with the scabbards of the long hunting knives, and hoisted her across my shoulders there on the slippery ice. I toiled back with her and it was night before I reached the car, and toward morning before I drove into a village and secured medical help. What would *you* do, Sentier—police are huskier than the average—with two bears and only a knife; and a girl you loved, with a broken leg, a hundred miles away from the nearest habitation? No buttons to push, no levers to set, no machinery to wait on you.

"I spent delightful weeks in Martha's company while she was confined with her fracture. Before they were over, she was pledged to be my wife. Why an able and beautiful girl like that should want to marry a clumsy and incompetent lubber like myself, I could not understand.

" 'I don't want to go back to Washington,' I said. 'Let us settle down right away, and forget about civilization.'

" 'I should like it, of course,' she smiled.

" 'Let the old Government Machine find someone else to do its dirty work!' I exclaimed. 'I'm happy here. Never again could I be happy in those roaring hives back there!'

"We planned our home, and counted on a teaching position which had been offered me in one of their universities, and I was happy about my future with her, and with these delightful people. I hesitated about informing the Secretary and the Mechanic. They were not quite as much delighted with the country of Democratia as I was, and were eagerly looking forward to the end

of the year; when they might go back to the brilliant lights and the gay entertainment of Broadway. It was difficult for me to force myself to tell them.

"Finally, when our preparations began to be outwardly apparent, Martha's father took us in to talk to him.

" 'Do you think this wise?' he asked me. 'From what I gather, your Government Machine does not lose track of details, and does not forgive failures.'

" 'How could it find me here?' I asked, but rather hesitatingly.

" 'Another phase of the matter is this. You sympathize with us and our country. We would much rather have you make the report. Suppose they send another man, less friendly? What would happen to us?'

"So, I started back for Washington, with a heavy heart because I must leave behind a girl, who, in beauty, in force of character, in real ability, mental and physical, is worth all the women in this feeble and degenerate civilization."

He had been talking with his head bowed toward his knees. When he ceased, there was silence. It was a queer silence, lacking things that ought to have been there. He looked up. Sentier was also bowed over. Slumped over, in fact. Jack stood behind him; and as Quentin looked up, Jack straightened up and shook his hands from the wrists as though to limber them up. As Quentin stared amazed, Jack gave Sentier a shove; the latter rolled down on the floor and flopped over on his back in a loose, sickening sort of way. His face was purple, his black tongue protruded, and there were black marks on his neck.

"Neat job," Jack said, "if you're really as surprised as you look. You went too far, reminding me of Sis and home."

CHAPTER III

QUENTIN looked down at the dead man, and up at Jack's stalwart figure.

"Democracy *versus* mechanocracy," he said. "That is the way it goes between individuals. Between the organized groups, it would come out exactly the opposite.

"The machine wins, though its subject people are weaklings. Wouldn't it be better for the race to destroy the machine?

"But *I* couldn't do it. Every fiber of my nature has been brought up to consider the Government Machine as a sacred mother—

"But, I'll bet Jack would have the nerve in a minute—"

"Come," whispered Jack shrilly, "let's get out!"

He was already stripping off the dead man's uniform. He held it up and surveyed it ruefully against his own strapping bulk.

"I'll put it on," Quentin said. "I can act the part where you cannot. It'll be your turn when the rough-house begins."

Quentin's clothes were put on the dead man, and the latter's keys were used to open the door. They walked past the sentry at the door, receiving his salute without the flutter of an eyelid, and marched down the hallway, Jack in front with the handcuffs on, but not locked. Quentin came behind him in the captain's uniform, bearing the shock-rod. They had no plan, except that Quentin suddenly thought of his secret airplane, and determined to get to it.

But how? It was out on Long Island. They were in the middle of a huge city, one solid structure honeycombed with mazes and labyrinths of streets and passages horizontal and vertical. The end of it was three or four miles away, three or four miles of endless, buzzing, swarming, whirling machinery and humanity between them and open country.

"Our best bet," Quentin said, "is to get down to the lowest level. There we ought to find some sort of a burrow to crawl out of. To the elevator."

They reached the elevator and pushed its button. Its door opened and they stepped in, setting the button on the "eight-below" level, the lowest of them all. The car started down.

A gong clanged and kept on clanging somewhere in the depths of the building. A loud speaker began to bellow hoarsely on the floor they were passing; its roar died down as they left the floor behind, but was taken up by another on the floor below.

"The guard has found Sentier," whispered Quentin, "and has turned in the alarm. Well, let's show 'em a scrap!"

A new voice began in the speaker. It was crisp and gave orders.

"——all doors," they heard as they shot past a floor.

"——shut off the power and search all elevators——" on another.

"Hm!" said Quentin as the elevator slowed down and they saw through the bars a group of blue uniforms approaching. Jack was tense for a fight.

"Not yet!" Quentin warned him. "Remember we can't fight the organization."

"All right!" he shouted to the approaching policemen. "I've got one of them. One of you come along. And get the power back on quick and the elevator moving, so that I can hustle him back where he belongs."

The policemen saluted Quentin. One of them stepped in and glared at Jack. The elevator door closed. In a few moments the car shot upward again.

Quentin touched the policeman with the shock-rod, and as he lay limp, Jack put the handcuffs on him, tied his feet with a strap from the policeman's own puttees, and gagged him with a handkerchief. The policeman, unaccustomed to such rough handling, winced and shrank away, groaning. The elevator shot upward swiftly, passing floors by dozens and scores. The Euthanasia Chambers were left far below. On each floor were crowding people, clanging gongs, and bellowing speakers. Eventually they stopped. Outside was huge machinery, wheels, pulleys, motors. Above was the sky wavy glass. Somewhere, far away below, were footsteps pounding up metal stairs. They were just under the roof, a thousand feet above the ground.

"Up on my shoulders!" said Jack, glancing up at the skylight.

Quentin unhooked the skylight, climbed out, and helped Jack up after him. All about them was a sea of roofs, miles and miles of them, flat dirty, with little cubicles and penthouses scattered by the hundreds and ventilators by the thousands. Above them on its tall flagpole waved the black streamer, which undoubtedly marked the location of the Euthanasia Chambers as a guide for aircraft. There were other flagpoles and other streamers, but no more black ones. They ran. They ran at random, not knowing whither.

They ran till their breath was all gone, and then sank

down and lay flat. Jack still trembled at the sensation of having crossed a bridgeway between two buildings and glimpsed a street a thousand feet below, a faint stream of blended, moving masses. Just now there was no one in sight. The scene was no different than when they had started. Only the absence of the black streamer made him sure that they were in a different place.

"Bad fix," Quentin said. "We'll starve up here."

"Oh, no," Jack replied easily. "We'll depend on the sun for direction, and keep going till we find an end or edge. We'll find some way of getting to the ground and getting away."

"Well, you've got nerve, anyway. And it's better to die trying than to sit here."

Then they noted airplanes searching round and round above them. They crouched down in the shadows between the pipes and cubicles. The planes came lower and closer together.

"They got the planes out quick," Jack observed.

"*It* did, you mean. It's all automatic. The men are just tools. The whole city is an electrical brain, and is just a subsidiary of the Washington brain; a sort of inferior ganglion. The men could never think nor work that fast. The planes are now coming straight at us; evidently they have located us by some such methods as the refractograph, which by the refraction of light detects the column of carbon dioxide rising from our lungs, the telaud which can hear us whisper or our hearts beat, or the bolograph which locates us by the heat of our bodies."

A plane landed on a level place a hundred yards away. Another and another alighted beside it. Figures poured out and began to close in on the two fugitives. Ahead of them was the edge of the building, with a sheer vertical drop of a thousand feet. There was no bridgeway, no door.

"Ha!" Quentin pointed to a flagpole from which floated a long silver streamer. It was some sort of a commercial signal to aircraft. The halliards on which the flag hung extended down over the edge of the roof. "Those ropes run into a window below."

Figures in blue were running toward them. Jack slid down the rope first and disappeared. Quentin waited for the rope to loosen as Jack got off, uncertain as to whether it would hold their combined weight. But he found a policeman sliding down the rope after him. The policeman hung on tightly and moved gingerly; Quentin looked up and saw his face ashy pale as it looked down at him. For the two of them swung out in space over a canyon a thousand feet deep, at the bottom of which moved slow streams of men and machines. A blended murmur came up to the two tiny men dangling high up there on a rope.

The policeman was poking downward toward Quentin with his shock-rod. Other faces were looking down over the edge of the roof, tense and distorted. Jack shouted from below, some incoherent, encouraging thing. The policeman slid down faster to catch Quentin. Quentin jabbed viciously upwards with his shock-rod and felt it touch. The policeman went limp and seemed to float out into space. His blue body sprawled out and turned over and over as it fell. With deadly rapidity it grew smaller and contracted to a dot far down in the gloom below. Quentin felt himself drawn into the window and trembled as he sat down for an instant on the floor.

Jack was dragging him toward a door. He could see the flag halliards tightening as another man started down. Out in the corridor they found gongs ringing and speakers bellowing, but no people. On all sides there was a roar and clatter of machinery behind closed doors. They opened one and dashed into a huge room full of big machines in rows; steam sizzled and white linen flashed by. At the far end, from every machine in a long row came baskets piled high with clean laundry, and scudded along roller conveyors into openings in the wall. People were visible. The baskets of laundry disappearing into dark openings gave Quentin an idea.

"Come on!" shouted Quentin.

They ran across the room. Each seized one of the baskets, dumped the linen on the floor, set the basket back on the roller conveyor, and got into it.

The darkness of the pit closed upon them. Machinery clattered and steam hissed. They bent low, not knowing what was above them. They felt themselves sink rapidly and again tipped level; there were gears grinding as they rounded corners. There seemed no end of sinking down and down in the blackness.

Finally, after a clatter of paper there came a burst of light. They saw clothes dumped out of baskets, wrapped in paper, and shot into tubes, all by machinery. They leaped out on the floor. Again there were no people. No bawling speakers. No gongs. Only the open mouths of pneumatic tubes, an endless row of them, each marked with its destination. Quentin eagerly looked for *Brooklyn*. It took but a moment to find it.

"All aboard for Long Island!" he shouted in glee.

As a wrapped package came down the conveyor toward the Brooklyn tube, he rolled it off and they took its place. The lid popped shut on the tube, nearly rupturing their ear-drums, and they were plunged in darkness. After the first rush and swirl and roar, all was quiet for minutes.

Again there was a roar and a crash and a burst of daylight. The two fugitives jumped up and ran, knocking over several astonished people who were waiting for packages; their destination was an open door with daylight beyond. Out there was a row of trucks with laundry packages dropping into them from overhead chutes. They were automatic trucks such as are used for making deliveries beyond the pneumatic-tube zone.

They leaped into the foremost truck. Quentin set the switches on impulse for Bay Shore, because that was not where he wanted to go, and they both rolled back into the closed portion of the vehicle. The truck started slowly, gathered momentum, and automatically made its way out of the city.

After fifteen minutes of eternity, they looked out. The truck was moving swiftly along a country road. Twilight was gathering rapidly.

"We'd better jump out and let it go on," Quentin suggested. "It's clever and powerful."

"What is?" asked Jack, "the Police Department?"

"The Machine. The Government Machine in Washington and its subsidiary portion in New York. It's a big brain. The police are dumb tools."

They waited for the truck to slow up around a curve, and jumped out. They alighted on grass. Jack rolled over and jumped up. Quentin found his breath gone and his head dizzy. He crawled unsteadily into the shelter of some shrubbery. In a few minutes a half-dozen speed-cycles on the road and planes in the air whizzed by, in pursuit of the laundry car.

"See how quickly it works," Quentin said.

"It's uncanny to hear you talk about *it!*" Jack exclaimed. "It's inhuman!"

"Next it will be flares and spotlights," Quentin warned.

Quentin found walking difficult and felt a terrific headache. He must have gotten a crack on the head when he fell out of the truck. Jack supported him and they staggered on. Ten miles ahead was their destination, his little country bungalow with its secret cellar. This was familiar terrain for Quentin, but ten miles cross-country in the darkness was none the less difficult. Even crossing a road would be dangerous. As they stumbled across field and through brush and timber, Quentin felt himself growing weaker.

It was not long before the lights appeared. Ahead of them, to the right, the country was lighted as bright as day.

"They're headed wrong," Quentin chuckled as he staggered desperately along. "We're going to the left at right angles to them."

Quentin did not recollect the rest of the night very clearly. Jack's strong shoulders were a comfort without which he could not have gone a mile. His head cleared up now and then in flashes to answer Jack's questions, and again he would relapse into a half-comatose state in which he walked. The guiding of the way depended on him.

"No rest from the Machine," went round and round in his head. "On all sides of us, thousands, millions of tentacles are squirming to close in on us, day and night. Soon my buzzing brain will give out. Then the Machine will reach out and pick us up. The Machine ought to be destroyed——!

"But that is treason," leaped through his brain in a sudden shock. "How do I dare even think such treason? Because my head sings from the bump it got, I suppose. But suppose Jack thought that. That would not be treason. And Jack has physical courage to do things, even to destroy the machine. It would be easy to do: just that one square building. Wreck that, and the Government Machine is dead. Jack would dare it if I told him.

"But I can't make myself tell him. It is treason. Even to think it is treason. Why can't he see it himself? I keep giving him hints——"

Jack kept continuously interrupting him with questions.

"How can they make it so much like daylight over there?"

Quentin hoped in a dazed way that his explanation of the thousand-foot flare circles that eliminated shadows, was correct. Then again he trudged on in his sleep, till he was roused by Jack's.

"How do we get across?"

He came wide awake for a moment. In front was a twenty-foot wall.

"The Long Island Transformer Depot. We'll have to go around. To the left. That was a bad crack on my head. I've got to rest."

Jack had to lift him and drag him a few feet before his legs got to swinging again. Then again came Jack's demand for a key.

"Got to move," Jack said. "The lights are starting this way."

"Here we are!" Quentin shouted as he came to again. He unlocked the door to the little bungalow. They found themselves in a small hallway from which steps led down to the spacious underground shop.

Jack gasped in amazement at it.

"I understood you to say," he exclaimed, "that you did this secretly and alone. Why, digging this cave would take years of time."

Quentin was nodding drowsily again.

"Power is cheap," he said. "See there."

There was a heap of cartridge-like things.

"I dug out this place with those. Screw a red one to a blue one and drop them. It is a slow explosion. No noise. But in a few moments everything, iron, rock, everything is a loose, fluffy powder. I swept it out. And now I've got to sleep. My head hurts."

CHAPTER IV

QUENTIN awoke to the humming of smooth, well-adjusted machinery. Bright sunlight shone full upon him. He lay and rested, and was conscious of a headache. There was a painful lump on his occiput. He studied the strange place about him.

Finally he realized that it was the cabin of his own secret plane. He sat up. Down below was blue water, and to the left a beautiful lacy shore and blue mountains. In front of him was Jack, peering ahead. As Jack heard a stir behind him, he sat up; his face lighted up to see Quentin awake.

"Where are we?" Quentin asked.

"I'm no geographer," Jack said, "but it must be the Mediterranean."

"See!" continued the boy. "We got away from 'em? Or from *It*, as you say." He grinned as though on a schoolboy lark.

Quentin shook his head gloomily.

"We're not out of it yet. Sooner or later it will get us—anywhere on this earth. My big hope is that I might see Martha first."

He sat, sunk in gloomy thoughts. Jack grinned happily. He seemed to be a creature that responded to the happy stimuli of the present, and forgot that there was a future.

"You need some breakfast, sir," he said. "Then you'll feel better."

Quentin ate and then lay down and slept again. After he awoke, he spent many hours searching the sky around him and the fleeting ground below. It was acute torture to feel that every moment a swarm of planes would swoop down on them. Every dot in the blue caused him to peer intently and with beating heart and clutching hands, until it was passed by safely. But it began to look hopeful as they passed over Asia Minor and into India, without any sign of pursuit or interference. He permitted pleasant thoughts of Martha to flow through his mind.

Above northern India he became alert. Eagerly he watched the Himalayas fall behind. The machine needed only an occasional touch for guidance. A shout from Jack called his attention to the green levels of Democratia. Slowly its woods and mountains separated themselves from the blue haze. Then they crossed its edge. They headed toward the capital.

Quentin's heart pounded. He was now confident that no matter what happened eventually, he would see Martha first. Up to the present time he had been racked with uncertainty. Her image rose up before his eyes,

and his veins tingled and his breath came short with anticipation.

The radio of Quentin's plane could not tune in with the inferior ones of Democratia; none of his messages got through. Therefore, no one awaited them at the landing-field. But, after telephoning and driving in a car, they were eventually at the house of Jack's father, and Quentin and Martha were in each other's arms. And after that, the four of them were gravely discussing the future.

"There is no hope," Quentin said. "The Government considers that it owns the Earth. It has pronounced sentence and nothing on earth can prevent its being carried out."

"How do you suppose they will do it?" asked Quentin's host; "Explosives?"

"Hardly explosives," considered Quentin. "Gas probably. Gas bombs from planes. Electric charges and disease bacilli are possible, but the one is unnecessarily expensive and the other unnecessarily brutal. The Government Machine is inexorable; but it will do nothing unnecessary. It is hard for you to realize the absolutely perfect, impersonal logic of the Machine. My guess is gas, some swift, painless gas."

"Perhaps," Jack said, "they will shout us to death with those shriekers they had on all their floors."

"Now, Jack!" Martha protested, in tears. She clung to Quentin. "But it's just like you, being silly, even in the face of death."

"What I ought to do," Jack bantered, swelling up his biceps, "is to punch the face of death right in the nose." Jack loved his sister and was doing his best to cheer her up in his clumsy way.

Then they discussed whether or not an alarm ought to be spread among the people of Democratia. Quentin's host was in a responsible government position and had authority to decide.

"What would be the use?" Quentin asked. "No defense is possible. No escape is possible. There would only be panic and riots and needless suffering. It is most merciful to let it come as a complete surprise."

"We'll carry the burden, then."

Quentin and Martha spent most of the day clinging close together. There was no sleep for them nor for her father that night.

"Isn't it terrible!" Martha exclaimed, "to see that young animal, Jack, sleep soundly in spite of all this? Hasn't he any feelings? We may never see the morning light again."

But morning dawned bright and clear upon the smiling land. It was torture to the three people who anxiously scanned the sky. Jack went out to play golf and the rest of the nation went about its business.

In the middle of the forenoon four planes appeared in the southern sky. Shortly afterwards Jack came in, much interested in them, but showing no fear. He was certainly a primitive creature.

The planes came straight toward the city, and the three watchers prepared to die; and bade goodbye to each other and to Jack, who by this time had grown serious and looked worried.

Quentin was almost breathless when the planes settled hesitatingly on the landing-field. An emergency car hurried him and his companion out there. There, in a circle between the four planes, were a dozen people, most of whom Quentin recognized as prominent figures in New York life. But they looked pale and crushed; they looked about furtively and helplessly. Despair showed in their attitudes and in their silence. They livened up a little when they saw Quentin approaching. He looked at them in amazement and waited for them to speak.

"We've come to ask for help," one of them said. "Will you help us?"

Again Quentin could not find words.

"The world is in chaos," the man said. "Disorder. Starvation. Disease. People are dying by millions. Trampling, exposure, suicide—no one knows what to do."

"What in the world has happened?" Quentin managed to gasp.

"An explosion," the man answered. "The key parts of the Government Machine are totally destroyed. No one knows how to repair it. The world is disorganized."

Quentin stared blankly.

"We thought perhaps you had done it," the man continued. "We knew of your daring escape——"

Quentin silently shook his head. Then he got a sudden idea.

"Jack!" he said sharply, turning toward that young man. "You rascal——"

Jack sheepishly came out from behind his sister.

"What do you know about this?" Quentin demanded.

"Well," Jack stammered. "You were so positive that inhuman thing would catch us sooner or later—I didn't want to take any chances. *It* wanted to kill all of our people. And you were knocked out with a bump on your head——

"The red and blue cartridges looked interesting. I tried a pair out on a couple of police cycles that were snooping around outside the house. It wiped them out.

"So I rolled you into the plane, blew the doors open, shoveled in the cartridges, and headed for Washington. I spent that trip screwing together as many as I could. Then I spilled a couple of hatfuls on the Government Building, and waited only long enough to see the corners begin to crumple. Then I lit out, straight up in the air. There were too many planes around——"

The rest was smothered in his sister's hug. His father had an arm about his shoulders. Quentin slapped him on the back.

The spokesman again approached Quentin.

"Will you and these people help us?"

"We will," Martha's father said.

"We'll reorganize the world," said Quentin.

"As a democracy," Jack added.

"And you, Jack," Quentin said, "will do a whale of a big share of the job. We need guys like you."

THE END

Seven Sunstrokes

By Bob Olsen

Author of "The Educated Pill," "The Master of Mystery," etc.

BY slowly progressive injections of poison, the decision might finally be handed down in the words "Died from natural causes." An autopsy would, of course, show traces of the poison, but why should there be an autopsy performed? However, there are substances—and if you are an advanced student of chemistry, you might know some—that are absolutely harmless unless directly contacted with an otherwise beneficial element. There is a scientific detective, avocationally speaking, in this story, but it is so full of clever adaptations of chemistry and so well written that we give you "Seven Sunstrokes" without any hesitation.

Illustrated by MOREY

CHAPTER I

A New Puzzle

"GOOD afternoon," said the pleasant voice of the telephone girl. "This is the Pryor Merchandising Bureau."

"Is Mr. Pryor there? If he is, tell him that Detective Lieutenant Spangler is calling him."

A moment later, Justin Pryor, known among his business acquaintances as "The Master of Mystery," picked up the receiver.

"Good afternoon, Lieutenant. This is Pryor talking."

"Oh, hello, Mr. Pryor. I think I have a case for you if you care to take it."

"A case?" Pryor questioned. "What sort of case?"

"Another murder case. At least it looks like murder—wholesale murder—five murders to be exact."

"But my dear Lieutenant, you must be laboring under a misapprehension. I'm not a detective—or at least I'm not a detective of crime. I'm a business counsellor. Crime is entirely out of my line."

"Maybe crime is out of your line, Mr. Pryor, but for an amateur you certainly did a good job of solving that Steele murder. The system you use in your business seems to work just as well in solving crimes and it happens that these particular crimes are right down your alley."

"Just what do you mean by that, if I may ask?"

"These murders—if they are murders—must have been committed by someone who knew a lot about science. Whoever did it is altogether too clever for the police and detective departments. I'm not worried because it doesn't happen to come in my territory. But if I had the job of tracking the murderer, I'd have to admit that I was licked before I even got started."

"I see," Pryor responded. "Sorry I can't help. Goodbye."

"Just a minute," Spangler yelled. "Please don't hang up on me yet. I've been told that you'd rather work out a hard problem than eat or sleep. Isn't that right?"

"I *am* rather fond of puzzles," Pryor admitted.

"Then you'll get a kick out of this one. To me it looks like the greatest puzzle in the history of crime."

"You don't say so!" There was no mistaking the tense eagerness in Pryor's voice as he uttered these words. "Tell me about it."

"During the past month, five men have died."

"Nothing unusual about that."

"I know. The unusual part of it is that they all died of sunstroke."

"I thought you said they were murdered."

"That was just a case of repeating somebody else's opinion. I know very little about it myself. But there is a man in my office right now who seems to know a lot about it. His name is James Strickland. The five men who were killed were close friends of his. All of them, including Strickland, got mixed up in a scandal some time ago and he thinks that the deaths of his five friends were brought about by some revengeful person connected with this scandal. After what happened to his pals, Strickland doesn't feel so safe himself. He has plenty of dough and he is willing to pay you a substantial fee for handling the case."

"From what you say, Strickland needs a body-guard more than he does a business counsellor," Pryor suggested.

"He has a body-guard. But gunmen can't very well protect him against sunstroke. That's why he needs a scientist. And I don't know of anyone who could do the job like you can. Strickland came to see for advice. I told him about you and he wants to meet you. Can I send him over to your office right now?"

"With an ordinary hypodermic syringe," he explained, "I inject a small quantity of the solution into the blood stream of the mouse . . . notice what happens when I place it in the sunlight."

"Oh, I suppose so. I'm dreadfully busy today but, after all, really good puzzles are rare you know."

From the instant Strickland stepped into his office, Pryor took a violent dislike to him. The man was coarse and heavy-set. His breath reeked of liquor. On his fat, sensual countenance were engraved the hieroglyphics which told to the student of physiognomy a story of vice and depravity.

"So this is Mr. Pryor, the great scientist," he said in a husky voice as he extended a flabby hand.

It reminded Pryor of a jelly fish, that hand, and he dropped it with an ill-concealed shiver of disgust.

"I'm not exactly a scientist," Pryor corrected him. "My work is in diagnosing and prescribing for sick businesses."

"That's one thing I don't exactly savvy. I see by the sign on your door that you call yourself a business counsellor. What does that mean? Is your job to tell a firm how to run the business?"

"Not exactly. Usually my work concerns only some specific problem of manufacture or marketing."

"I still don't get you."

"Perhaps an illustration will make it clear. Here's a typical case: One of my clients manufactures an ant exterminator. Preparations of this sort must contain poisons which are deadly to human beings and pets. Most of them are sweet in taste. There have been a number of cases of valuable dogs and even of children who have been killed by eating ant exterminators.

"My client, the Marvel Company, got around this objection by making their exterminator in the form of gelatin. This is packed in small, sealed tin cans. The user simply punches four holes near the top of the can with a nail, through which the ants can crawl to get the sweetened, poisoned gelatin. Since the cans are sealed and the contents cannot be poured or shaken through the small holes, there is no danger of children or animals eating it."

"Sure, I know about that dope," Strickland assured him. "I've used it myself. But where do you come in on this racket?"

"I was called in when they began to have trouble. Repeated tests showed that the preparation retained its efficacy indefinitely in some localities, while in other places the ants refused to go near the cans. The Marvel people were at their wit's ends to explain this mystery and meanwhile they lost a lot of business. Dealers who had been boosters when the product was first introduced, refused to restock it, and it looked as though the company would have to go out of business. As a last recourse, they called me in."

"And what did you do about it?"

"I secured one of the cans which had been shunned by the ants, opened it with a can opener and made a microscopic examination of its contents. I discovered that a tiny mold had formed over the surface of the gelatin. It was indiscernible to the naked human eye, but amply sufficient to make the material unpalatable to the ants. All I had to do then was to discover a preservative that would prevent the formation of that mold on the gelatin and the problem was solved. The Marvel people were glad to pay me several thousand dollars for my services."

"That was pretty soft for you, Mr. Pryor," Strickland said. "And, speaking of fees, how much will you charge me to handle this case of mine?"

"I'm not so sure I want to handle it," Pryor told him.

"Is that so?" Strickland snarled. "Well, let me tell you something, Mr. Business Counsellor. If you know what's good for you, you'll take my case whether you feel like it or not. Get me?"

"I can't say that I do 'get' you," said Pryor calmly. "And, if you will pardon my saying so, I don't exactly like your attitude. And now, since I happen to be very busy, I trust that you will excuse me."

He stepped to the door, opened it and stood there waiting for the other man to depart.

CHAPTER II

A Sordid Story

STRICKLAND made no effort to leave his seat. But his face lost its hateful, threatening lines and assumed what he meant to be an expression of friendly good nature. Pryor's eyes saw only a fatuous, egotistical leer.

"Aw, don't get sore, Mr. Pryor," the visitor whined. "I was only fooling. I didn't mean no offense. This thing has got my goat. Can't help being jumpy and quick on the trigger. According to what Spangler said, you are about the only man in California that can help me. I need help bad, I do. Won't you please listen to me?"

"As long as you keep that attitude, I shall be glad to listen to you," Pryor said graciously. "But I must ask you to be brief. I am extremely busy and I cannot promise to take your case unless—"

"Unless what?" Strickland demanded. "If it's money—"

"Financial remuneration is the least consideration for me," the business counsellor interrupted him. "There is only one thing that might induce me to handle your work."

"And what is that?"

"If, as Lieutenant Spangler hinted, this case is a real puzzle—one that is supremely difficult to solve—I may consider handling it."

With eyebrows arching, Strickland's face assumed a ludicrous expression of amazement. "You're a kind of a puzzle yourself, Mr. Pryor," he remarked. "Here you have a chance to make a lot of jack and you want to spend your time working conundrums. And you call yourself a business man."

"But you seem to forget that you are asking me to do something that is outside my regular business. With me, investigating crime is not a vocation, but a recreation. If I can't enjoy it, I intend to keep scrupulously away from it. Suppose you tell me your story as concisely as possible. It won't take me long to decide whether I wish to investigate it further."

"O. K., Mr. Pryor. I may as well tell you that I am a saloon keeper."

"A saloon keeper?" Pryor doubted. "I suppose you mean that you operate a speakeasy."

"Saloon is the right word for it. My business is strictly legal and legitimate. You see, it is located in Elsonado, just across the border in Old Mexico.

"That will give you a line on the whole works. Of course you remember the Whipple case. The newspapers were full with it about a year and a half ago."

"I have only a very dim recollection of the story.

You see I very seldom read news articles about crimes. The headlines are about all I have time for. Please enlighten me."

"Whipple was a typical tourist. Came to California from Iowa. Brought his daughter along. She was supposed to be seventeen. I think that was a lie, myself. To me she looked old enough to vote."

"You saw her then?"

"Sure I did. She was hanging around my saloon for nearly an hour. Didn't drink anything but soda pop, though. Funny, ain't it, about these Eastern tourists? Back in Iowa they wouldn't think of going near a place where folks was drinking liquor. They wouldn't even play penny ante for money. But when they come out here on a vacation they get a big kick out of going into a real saloon, putting their feet on the brass rail, and risking their quarters in the slot machines."

"That's understandable," Pryor interposed. "And what happened to the Whipple girl?"

"She got separated from her old man. Some say she ditched him on purpose. Others claim that somebody put knock-out drops in her soda pop. Take your choice."

"What is your version of the incident, Mr. Strickland?"

"I don't pretend to know nothing about it. I'm just telling you what the papers said. Whipple hunted his daughter Ruth all over Elsonado. He didn't find her until two days later. You can easily imagine what she looked like and the story she told the old man."

"Yes," Pryor agreed. "That I can easily imagine. And after that?"

"Whipple took Ruth to Los Angeles. He was either screwey or else he had a funny twist in his make-up. You remember what he done, don't you? He rented an apartment. Next day they found Whipple and his daughter dead in the room with the gas turned on. From the position of the bodies it looked like the girl knew what was going to happen and lay down on the bed of her own free will. A note was found signed by Whipple. It said that he couldn't stand the disgrace and that he had decided to end it all. That's what started the big buzz in the newspapers."

"I see. And by 'big buzz' I suppose you mean that there was an investigation."

"I'll say there was an investigation. A couple of guys that had it in for me squealed to the reporters. They claimed that I engineered the whole rotten mess. Two guys that worked for me and three that were connected with a joint three blocks away from my place were accused of doing all the dirty work. The newspapers sure made the most of it. They tried to get the police of Elsonado to pinch us, but the bulls knew better than to do that. Then the story went out that I had the police fixed. Finally somebody brought pressure to bear through Washington and the six of us was indicted. We was tried but the jury acquitted us in short order, of course."

"As I remember it," Pryor interposed, "the acquittal was due partly to the fact that the leading witness for the prosecution failed to appear at the trial. A few weeks later the reason for his absence was made clear. His body was found out in the desert, riddled with bullets. How do you account for that?"

"You seem to know something about the Whipple case after all," Strickland grinned.

"About that part of it, yes. It is incidents like that which interest me most. No doubt you can explain why this witness was killed."

"I don't know nothing about it personally, if that's what you are driving at. He just got what often happens to a guy that don't know enough to keep his mouth shut."

"I see. And after the trial and acquittal—what happened then?"

"Nothing happened for several months. Then Torrez was killed."

"Torrez? He was the proprietor of that other establishment you referred to, was he not?"

"Yep. He ran the dive where the Whipple girl finally landed."

"How was he killed?"

"The coroner said he died by sunstroke. But I happen to know that he was poisoned."

"What makes you think that?"

"Because every one of the guys that was mixed up in the case except me died the same way."

"Of sunstroke, you mean?"

"Of what the coroner called sunstroke."

"But isn't it possible that they all did die of sunstroke?"

"Maybe it is possible. But it sure looked phoney to me. I'll leave it to you. You've been in California for several years, haven't you?"

"Twelve years, to be exact."

"All right. And during those twelve years how many times have you heard about anybody dying in California of sunstroke?"

"Now that you mention it, I can't remember a single case of sunstroke that resulted fatally."

"Neither could anybody else—until four of these birds was killed in a row—one right after the other. And the funny part of it was that on the days they died, the sun wasn't especially strong either. Doesn't that sound fishy to you?"

"It does look like a mystery. I understood you to say that these five men were all closely associated with each other. That suggests a contagion of some sort. Perhaps it was some rare disease which was not understood by the coroners who officiated at the inquest, and which was transmitted from one of these men to the others."

"I thought of that, too. But it don't hold water. You see it happens that, excepting for one guy named Marvido, the others wasn't within a hundred miles of Torres or of each other for at least two months before they died. On the other hand there was hundreds of other people who came in close contact with these men every day and none of them died of sunstroke or anything else. How would you explain that?"

"I'm not trying to explain anything yet. I'm merely seeking information," Pryor told him.

"Well, I guess you got most of the dope now. Anything else you want to know?"

"I suppose I may as well ask a few conventional questions—the kind a professional detective would ask under the circumstances."

"O. K. Shoot!"

"Assuming that these five men were poisoned, have you any reason to suspect any particular individual of administering the poison?"

"I don't quite get you."

"Let me put it this way: Do you know of anyone who would be impelled to avenge the death of the Whipples?"

"I guess there were thousands of people that were sore about it."

"Naturally. Almost any upright person would be righteously indignant under the circumstances. But it is hard to believe that such a person would go to the extent of committing murder unless he happened to be a relative or close friend of the wronged girl. Murder is a pretty risky business. Do you know of anyone who would be likely to take that risk?"

"Damned if I do. So far as I know, the Whipples didn't have any relatives or close friends in California."

"I see. And about the localities of these five deaths—did they all happen in the same place?"

"No. They happened in five different places. Torrez died on the beach at Coronado. Marvido dropped dead in Elsonado. Muller was at Long Beach when he got his. Smith went to Frisco a few months after the trial and Mendez was killed some place in Texas."

"How do you know they all died of sunstroke?"

"After what happened to Torrez and Marvido, I thought things looked kind of fishy, so I took the trouble to keep tabs on the other three."

"I see. And I presume that your interest in this case is due to the fact that these five men were all friends of yours."

"Hell no. Except for Torrez, they were just a bunch of bums. Two of them worked for me. Smith was a bartender and Mendez cleaned out the spittoons and did all the other dirty work around the saloon."

"Nevertheless you are willing to spend money in the hope of apprehending the person whom you think responsible for their deaths."

"I don't give a damn about them, if that's what you mean. All I'm interested in is myself. If this is a frame-up, as I think it is, I may be the next one to be put on the spot. What I want to do is beat the killer to the draw. I'm depending on you to nab this bird before he has a chance to get me. Understand?"

"Perfectly."

"O. K. Glad that's settled. Now how much dough do you want in advance?" Strickland took out his check book, unscrewed the cap of his fountain pen and waited for Pryor to name a retainer fee.

"Never mind the money question, now, Mr. Strickland," Pryor told him. "I won't be able to start on your case for several days anyway. I'm right in the midst of a problem now and I make it a rule never to start on a new puzzle until I have solved the one on hand."

"The Hell you say," Strickland swore. "Don't you realize that this is a matter of life and death? While we're waiting for you to work out your riddles, this guy may croak me."

"If you follow my instructions, I don't think you need to fear anything of that sort. The history of crime indicates that after a criminal has succeeded in accomplishing his purpose once, he almost invariably uses identically the same method in carrying out subsequent crimes. Scotland Yard has built up a complete system of crime detection based on this well-established principle. They call it the "M. O. System" which is an abbreviation for *"modus operandi."* From what you have told me, there can be little doubt that, if this supposed murderer attempts to do away with you, he will use sunlight as his chief weapon. It ought to be possible for you to protect yourself, by avoiding the direct rays of the sun. I suggest that you wear black gloves on your hands and that you shade your face and neck with a broad brimmed hat. Under no circumstances must you expose any part of your skin to direct sunlight. Do you understand?"

"Sure. That sounds like good advice. I believe I'll do it. And when will you be able to start work trailing the killer?"

"That's hard to say. It all depends on the progress I make on my present task. It may be a few hours and it may be weeks. However, I have reason to hope that I shall find the solution within the next few days. As soon as that happens, I shall get in touch with you. Please leave your phone number with my secretary as you pass out."

CHAPTER III

An Ominous Warning

ON the following morning Pryor's office saw him not. He was out visiting garages, talking to service station attendants and interviewing car owners in an endeavor to ascertain the reasons why the sale of a certain brand of automobile polish had fallen off at a rate that had seriously alarmed its manufacturers.

When, at about four-thirty in the afternoon, he finally made his appearance, his secretary, Miss Field, greeted him with, "Mr. Strickland has been trying to get you all day. When I told him I didn't expect you in until late he became quite frantic. He asked me to be sure and have you phone him the moment you arrived. Shall I call him now?"

"No," the Master of Mystery said bluntly. "He has no business to take up my time now. I made it clear to him that I would not start on his case until I have finished the Crystalac investigation."

"He said he'd call again. If he does, what shall I tell him?"

"Oh, I suppose I may as well talk to him."

Ten minutes later, the phone rang and Miss Field notified her employer that Mr. Strickland was on the line.

"Good afternoon, Mr. Strickland," Pryor greeted him. "What can I do for you?"

"I must see you at once, Mr. Pryor. Can you come out to my house right away?"

"I'm afraid that will be impossible. As I told you yesterday—"

"Never mind what you told me yesterday. Something has happened—something that scared the pants off me. Won't you please help me?" Even over the phone the note of terror in his voice was plainly noticeable.

"Sorry, Mr. Strickland, but I am under contract with one of my regular clients. I have definitely promised—"

"To hell with your promise! Can't you understand that my life is in danger? Don't that mean nothing to you?"

Pryor wanted to tell him that it didn't mean a thing, but he relented and answered, "Why, of course. But can't you tell me over the phone what happened?"

"I don't like to. I'm scared somebody will hear me and I don't want my daughter to worry. But if you can't come out, let me tell you this much: I got a letter today, do you understand—a letter that was mailed yesterday from Mexico. The Elsonado postmark is on the envelope."

"You opened it, of course."

"Sure I opened it. That's why I'm scared. It was a letter. And it proves that there ain't no bunk about those five other guys getting murdered."

"Were they mentioned in the letter?"

"Not by name. Can't you come out this evening and give it the once over?"

"I'm afraid not. I suggest that you get in touch with Lieutenant Spangler or somebody in the police department. If the letter threatens you, it is a matter for the police. I think you understand, do you not, that I am neither a police officer nor a detective."

"But ain't you going to do something about it?"

"Not until I am ready to see the whole matter through to the finish. Why don't you call the Lieutenant? I am sure he will be glad to help you. In a matter of this sort he can help you far more than I can."

"All right! All right! I guess you're not worried over what happens to me."

"To be brutally frank, I don't see why I should worry about you, Mr. Strickland. As I told you before, I shall let you know when I am ready. Goodbye." And he hung up the phone.

Half an hour later, when he was just about to leave his office, the telephone rang again. This time it was Spangler.

"Excuse me for calling you, Mr. Pryor," the detective began, "but this Strickland case looks mighty serious. I understand that he told you all about the letter he received."

"Not all about it. I am very busy. I have made a contract with one of my clients which requires me to devote all my attention to his problem until I have solved it. This I tried to explain to Strickland, but he refused to listen. I advised him to get in touch with you. Apparently he took my suggestion. For my part, I am not interested at present, and for that reason I did not ask for any details concerning this letter."

"I've seen it," Spangler told him. "It virtually amounts to a threat against Strickland's life."

"You don't say."

"I sure do. Want me to read it to you?"

"Please do."

This is the message which Spangler read over the phone:

"My dear Mr. Strickland:

"You are number six. As you undoubtedly know, the other five have already been executed for their crimes. For cogent reasons you have been saved until last. You are also being accorded privileges which none of the others received—you are being warned in advance to prepare for death. By the time you receive this, it will be too late for you or anyone else to do anything to save you. Right now you are in the death cell, awaiting the hour of your execution, which is not far distant. Remorse or repentance could hardly be expected of a man like you, but if you have anything important to accomplish before you die, you had better do it at once.

The Avenger."

When he had finished reading, Spangler remarked: "That's what the letter says. What do you make of it?"

"Would you mind reading the third sentence again?"

"Glad to. Here it is: 'For cogent reasons—' "

"That's all I wanted to hear," Pryor interrupted. "That seems to corroborate my theory."

"What is your theory?"

"That the person behind this plot must be well educated. That would seem to be verified by the use of the word 'cogent,' which is rather unusual in the ordinary vocabulary."

"I'll say it is unusual. What in the dickens does it mean anyway?"

"The meaning of the word doesn't matter. The fact that the word was used at all is the significant consideration."

"I'll take your word for it. And what would you advise us to do next?"

"The answer to that is obvious, as you of course know, Lieutenant. Find the author of that letter and you will probably find the murderer. That is, unless the letter is only the work of a crank."

"Doesn't look like that to me," Spangler assured him. "I've seen lots of crank letters, but this one is altogether different. It's too damn serious, and the man who wrote it seems to know more than any crank would be likely to know."

"In that case it will undoubtedly be advisable to find out who wrote the letter. That is a matter which you and your assistants can take care of as well as anybody I know."

"Thanks for the grapefruit, Mr. Pryor, but in this case I'm afraid I'm running into a lot of grief. The letter was postmarked Elsonado. It was mailed on December 24. There were thousands of visitors in Elsonado that day so it would be like hunting for a needle in a haystack to try to find out who mailed that letter. It looks like a blind. If the man who wrote it really intends to carry out his threat he must be in Los Angeles right now."

"How about the paper and envelope?" Pryor asked. "Any possibility of tracing them?"

"The envelope is very ordinary—the kind that can be bought at any stationery store. The paper is odd, though. So is the way the message is printed on it."

"In what way is the paper odd?"

"It's like a blue print, only the lettering isn't white; it's a greenish blue, almost as dark as the paper itself. I can just barely read it."

"From what you say, it looks like it *is* a blue print—probably one that hasn't been fixed. If that's the case it will soon fade out. Have you had a photostat made of it."

"Not yet, but I'm going to have that done right away. Do you know any way I can stop the letters from fading out?"

"If it is an ordinary blue print, all you need to do is to soak it for half an hour in running water. I wouldn't advise you to do that, though. It looks as if the man who sent the letter planned it very carefully so that the evidence would be destroyed. If that's the case, the likelihood is that he has thought of the common methods of handling paper like that and has provided for all probable contingencies."

"That's what I'm afraid of myself. Gosh, Mr. Pryor, I wish you would sit in here with me."

"I'd like to very much, but I'm afraid that will be impossible until after I have finished the task on which I am now working. Nevertheless, if you wish me to make a suggestion, I can tell you in a few words what I

would do under the circumstances as I understand them."

"I wish you would do that, Mr. Pryor."

"Very well, then. Suppose you cut off a corner of the paper containing a few letters of the message that do not affect the meaning of the message as a whole. Soak that piece in water and see what happens. In the meantime I would keep the remainder of the sheet thoroughly covered with something that is impervious to light and I'd arrange to have it photographed as soon as possible. If you find that the water treatment works all right with the small fragment you will still be able to use the same process on the rest of the message."

"That sounds like good advice. I'll try it. All the same, I wish you could take an active hand in this case. Sorry to bother you when you're so busy; but as soon as you are at liberty, give me a buzz, will you."

"I'll be glad to. Goodbye."

CHAPTER IV

Murder Number Six

FOR two more days Pryor labored assiduously at the automobile polish investigation. As was the case with every problem he had ever tackled, success crowned his efforts. With an overwhelming weight of evidence he proved that the substantial decrease in the demand for Crystalac was due to an unpleasant odor which the product acquired after it had been exposed to the air for some time. Numerous experiments had shown that the smell had no effect on the polishing properties of the product but it was sufficient to make it undesirable to a large number of users who were otherwise very well satisfied with it.

Pryor solved the problem with characteristic speed and simplicity. He recommended adding to the formula an ingredient having an agreeable odor powerful enough to cover up the unpleasant smell. A hundred samples of the altered product distributed to men and women of various types demonstrated that it was entirely acceptable to the public in its new form. This work he completed on the afternoon of December 31. The following day being a holiday, he waited until the morning of January 2, and then, true to his promise, he instructed his girl to call Strickland's telephone number. There was a considerable delay before she signaled her employer to lift his phone.

"Good morning, Mr. Strickland," was Pryor's greeting.

"This is not Mr. Strickland," the voice at the other end of the line said. "This is his butler speaking. Mr. Strickland is not able to come to the telephone."

A strange premonition prompted Pryor to say, "Has anything happened to Mr. Strickland—anything serious, I mean?"

"Yes, Sir. Something has happened to him. Something serious. Something egregiously serious."

"Don't tell me he is—" He stopped with his sentence hanging in midair when he heard, as if in the distance, an excited voice say, "Give me that phone."

A moment later this second voice was talking directly into the transmitter. "Who is this talking."

"This is Justin Pryor."

"Oh, hello, Mr. Pryor!"

"Your voice sounds like Lieutenant Spangler's."

"You're a good guesser. Spangler it is. And now see if you can guess why I happened to be here when you called up."

"I don't need to guess," Pryor informed him. "You are there to investigate the death of James Strickland."

"How the devil did you know that? The butler didn't tell you, did he?"

"No. He merely told me that Mr. Strickland was unable to come to the phone."

"Then how did you know he was dead?"

"It was what you would call a 'hunch'—nothing more, I assure you. I suppose it is necessary for me to ask you what was the cause of his death. He died of sunstroke, of course."

"Sunstroke?" Spangler exclaimed. "Say, you're not trying to kid me, are you?"

"Certainly not. Why?"

"Strickland was found dead in his own bathroom early this morning. Now how in the devil could a man die of sunstroke inside of a house in California, on the second of January, when it is cold and foggy outside? There's a puzzle for you to answer, Mr. Pryor."

"That does sound like a poser, doesn't it? Nevertheless, I shall be very much surprised if it doesn't transpire that the circumstances attending his death were identical with those of a person who has had a sunstroke. What do the medical people say about it?"

"Darn little. Strickland's daughter called in a Doctor Magnus, who seems to be the family physician. Strickland was dead before he arrived and Magnus admitted that the cause of his death puzzled him. When I told Magnus about the threat that had been made against Strickland's life, he asked to be excused. You understand, don't you—he passed the buck to the coroner."

"And what was the coroner's verdict?"

"Hasn't arrived yet. Expect him any minute. And, say, Mr. Pryor, won't you please come over here and give this place the once over? How are you fixed for time now?

"Still up to your ears in auto polish?"

"I finished that assignment the day before yesterday. From now on my time is yours if you need me. My purpose in phoning just now was to inform Mr. Strickland that I was ready to start working on his case. Too bad I was too late to help him."

"You're too late to help Strickland, all right. Poor devil! He sure was scared. I've seen a lot of frightened people in my day but he was the worst of the whole bunch. Whoever did this certainly made a good job of punishing him."

"Do you think Strickland deserved what he got?" Pryor asked.

"I guess he had it coming to him, all right. I wasn't especially interested in Strickland's troubles before. The other jobs were all done outside my jurisdiction. But Strickland died in Los Angeles. If it wasn't for that letter, it might have passed off as an accident or death from natural causes, but that message makes it look like murder. That means it's up to me to get busy. Frankly, I'm up against it. This scientific stuff gets my goat. I hate to admit it, but it looks like I'm licked even before I get started. That is unless you are willing to help me. What do you say, Mr. Pryor?

"Will you give me a hand? Will you sit in on this game with me?"

"Will I?" Pryor answered. "Just try to keep me out of it."

CHAPTER V

Where and How It Happened

HALF an hour later, Pryor's car was crawling up one of those steep, winding roads which carve fantastic patterns in hills north of Hollywood. Strickland's home was what a Los Angeles realtor would call a "hillside estate." So near perpendicular was the lot that even a mountain goat would have found it difficult to climb from one end of it to the other. The house itself was a charming example of the hillside type of architecture which is so popular in certain parts of California. It had a number of intriguing wings and ells and towers, with windows on five different levels. Being familiar with dwellings of this character, Pryor knew that the living room would be on the top floor, level with the street, at the upper end of the lot.

In response to Pryor's ring, the door was opened by a maid. Almost immediately he was greeted by Lieutenant Spangler.

"Come in, Mr. Pryor," he called over the servant's shoulder. "I'm sure glad to see you."

"Has the coroner arrived yet?" was Pryor's first question.

"Yes. Got here just a few minutes ago. He's examining the body now."

"Good. How long do you think it will take him to bring in an opinion?"

"That's hard to say. Maybe a few minutes—maybe a long time. It all depends on how things look to him. He may want to question the servants and the members of the family, in which case it may take several hours."

"I see. And in the meantime, suppose you tell me how it happened."

"Mrs. Strickland found the body at about nine-thirty this morning. She and her husband occupy separate chambers which are connected by a bathroom and are on a lower floor. She told me that Strickland has been drinking a great deal lately. I wasn't at all surprised to hear that, of course. He has always been a heavy drinker. On account of the extra worry he's been through lately, he has probably been hitting the booze harder than ever. According to Mrs. Strickland's story, she heard him enter the bathroom a few minutes before nine o'clock. She spoke to him through the door, telling him she would wait for him in the breakfast room. Just before leaving her room, she heard him turn on the water of the shower.

"When he failed to show up after a reasonable time, she returned to see what was detaining him. On entering the bathroom she found her husband's body lying senseless on the floor. When she screamed for help, her daughter Clara and the butler, Jackson, heard her and came running down the stairs. They carried Strickland into his room and laid him on the bed. Clara phoned for Doctor Magnus. I arrived on the scene just a few minutes after he did. By that time Strickland was dead. As I told you over the phone, Doctor Magnus passed the buck to the coroner."

"How did it happen that you arrived at such an opportune moment?"

"I came in answer to a phone call from Strickland."

"From Strickland?" Pryor exclaimed. "You mean you talked to him just a few minutes before he died?"

"No I didn't talk to him. His butler, Jackson, phoned me and told me that Strickland wanted me to come here as quickly as I could."

"What time was that?"

"About nine o'clock."

"You have questioned the butler, of course?"

"Not yet."

"Have you any idea why Strickland sent for you?"

"No," Spangler replied. "Perhaps it had something to do with that note of warning he received last Friday."

"That reminds me. What happened to the note? Did you follow my suggestion?"

"I'll say I did—for all the good it did me. Your hunch was right, all right. Whoever sent that note was clever—altogether too damned clever."

"By that I suppose you mean that the evidence has been destroyed."

"I'll say it has. I tore off a corner of the sheet, as you suggested and soaked it in water. What do you suppose happened to it?"

"Don't tell me that the paper dissolved in the water."

"Not exactly. It turned black just as if it had been burned by a slow fire. When I took it out of the water it fell to pieces. How do you account for that?"

"Don't ask me. I'm no chemist. What happened to the rest of the letter."

"I kept it covered up like you told me to and hustled it to a photographer. He had to put it under a strong light to focus his camera on it. By the time he was ready to shoot it, the printing had faded and our evidence was gone."

"You retained a copy of the wording of course."

"No. I didn't. Since I expected to get a photograph of it I didn't think that was necessary."

"It really doesn't matter. Fortunately you dictated it to me. In case you wish an exact copy of the wording of it, I can give it to you any time."

"You mean you can remember the whole thing word for word?"

"Why certainly. That's easy. I have memorized passages ten times as long as that by hearing or reading them only once."

"You'll have to show me," Spangler doubted.

"Very well then. Here is the message as you read it to me over the phone," and Pryor repeated it verbatim.

"That's what it said, all right," was Spangler's verification. "You sure have a wonderful memory."

"Nothing wonderful about it. Any one can train his memory. It's like learning to play a musical instrument. All it requires is practice. And by the way, I don't suppose you have had a chance to check up the statements made in that mysterious message."

"What do you mean?"

"I'm referring to the fourth sentence which said, 'You are being accorded a privilege which none of the others received—you are being warned in advance to prepare for death.' Do you know whether or not that is true?"

"I don't get your drift yet."

"Then here goes another snow storm: Have you been able to ascertain whether or not any of the other five victims of sunstroke were warned in advance of their impending fates?"

"No. I haven't had time to check on that statement. Frankly, I don't see the use of doing anything of the sort. That's what the letter itself said. Why should I doubt the truth of it?"

"I see no reason for doubting it myself. The surprising thing is that a man as clever as this criminal seems to be would commit such a serious blunder as to send a message to any of his victims. If it hadn't been for this letter, everybody would have thought that Strickland died a natural death and there wouldn't have been any investigation. Why do you suppose this murderer of ours, supposedly a crafty, brainy man of science, made such a stupid error as that?"

"That's easy enough to understand. Knowing that Strickland was the ringleader of the bunch, he purposely saved him until last. To make his vengeance complete, he planned to torture his victim before he killed him. Fear was his strongest weapon. By mentioning the fate of the other five, he made Strickland believe every word of that message. He probably figured that because of his success in carrying out his plot he could afford to take chances, especially when he protected himself by making sure that the evidence would be destroyed before it could be used to catch him."

"Your explanation seems plausible," Pryor agreed. "Nevertheless, that scrap of paper, devilishly ingenious as it is, will be the death warrant of the man who originated it."

"That sounds like you feel pretty confident that you are going to catch the man who did this."

"I not only feel confident—I feel almost certain that the murderer has already betrayed himself. I'll admit that it is the wildest kind of a hunch but I am also ready to name the culprit right now."

"The hell you can! Who do you think did it?"

"Jackson, the butler. If I were you I would detain him or at least keep a close watch on him."

"Nonsense. Why you don't know a thing about him. What in the world put that idea into your head?"

"Wasn't it Jackson who answered the phone when I called this morning? Just before I talked to you?"

"It probably was Jackson. What of it?"

"While he was talking to me over the phone, he used an unusual word. It was 'egregiously'."

"What's that got to do with it?"

"Just this. A word like that doesn't belong in a butler's vocabulary. But it is the sort of word that might be used casually by a well-educated man—for instance by a scientist who had decided to commit a series of murders. Remember what I said about the other word 'cogent'."

"I'm afraid that evidence is mighty thin, Mr. Pryor. You can't expect me to arrest a man for murder just because he uses a hifaluting word."

"Certainly not. I didn't mean for you to charge him with murder—at least not until we can collect some real evidence against him. My only reason for mentioning the matter now is so that you can prevent him from making what you call a 'getaway'."

"Personally I think you are barking up the wrong tree. But even if you are right, you're a hell of a detective to spring anything like this before you even get started. Don't you know that a detective is supposed to keep everybody in suspense? He's supposed to hold back the name of the criminal until the very last thing, after everybody else has been suspected."

"My dear lieutenant," Pryor smiled. "As I have told you repeatedly, I am not a detective. I am a business counsellor. As I analyze this case, the real problem is not *who* committed the crime."

Spangler started to dispute this but Pryor went on, "Please don't misunderstand me. I realize, of course, that we must discover the identity of the murderer. But our first job is to find out *why* the crime was committed and *how* it was committed. Unless I am very much mistaken the answers to those two questions will also include the name of the person who did it. Do I make myself clear?"

"I suppose so. But——" he hesitated and Pryor continued:

"I don't suppose you have any objection to my interrogating Jackson."

"Certainly not. Interrogate him all you want to. I'll call him."

He rang the bell. A few moments later a stout, red-faced man in butler's livery entered and greeted him with the conventional, "Did you ring, Sir?"

"You are Jackson, I suppose," Spangler said.

"No, Sir."

"Then who in the devil are you?"

"I'm Hathaway, Sir—Mr. Strickland's butler, if you please, Sir."

"Strickland's butler? How many butlers are there in this house, anyway?"

"Only one, Sir."

"How about Jackson? Isn't he the butler?"

"He was, Sir, but only temporarily."

"Only temporarily? What do you mean by that?"

"He relieved me for two weeks so that I could take a vacation. You see I haven't had a vacation for——"

"Never mind that. What happened to Jackson? Where is he now?"

"I don't know, Sir."

"You don't know?" the detective roared.

"No, Sir. You see he left shortly after I arrived to relieve him. He didn't say where he was going."

CHAPTER VI

The Chase

WHEN Spangler heard the news of Jackson's departure, he swore eloquently, emphatically and excitedly. It didn't take him long to get over his chagrin, however.

"Looks as if your hunch was good, after all, Mr. Pryor," he said in a nervous tone. "I guess there's nothing for me to do now but try to catch that baby. I wonder how in the devil he got out anyway. I've had my eye on that door ever since I got here."

"He left by way of the garage," Hathaway volunteered. "There's a spiral stairway leading down to the level of the road below this one, Sir."

"Did he have a car of his own?"

"No, Sir. That is, I don't think so."

"Do you suppose he could have helped himself to one of Strickland's cars?"

"I don't think so. The chauffeur is usually there when he is not out with one of the cars."

"O. K. Now you listen to me, Hathaway. I want you to stay here until I get back. I'll be gone just a minute."

Spangler went out on the patio and called to the driver of the police car in which he had made the trip from his office to the Strickland residence.

"Drive down to the next street below this," he com-

manded. "I'll meet you at the door of the garage belonging to this house."

Returning to the living room, he said, "Will you be good enough to stay here until I get back, Mr. Pryor? I don't expect to be gone long. Please see to it that nobody leaves by this door. I'll attend to guarding the other doors." Then to the butler: "Here, Hathaway, show me the way to the garage, will you?"

For several minutes Pryor sat there and fidgeted. He was the kind of man who had to be eternally busy at something and this inactivity irked him. For want of something else to do he sat down at the grand piano and began to play with his foot on the soft pedal. So absorbed was he in trying to recall an elusive strain from "Liebestraum," that he did not hear the whirr of the elevator and the click of the door behind him. He was therefore somewhat startled when a rich contralto voice said almost in his ear, "Oh, I beg your pardon."

He turned and found himself looking into a pair of unusually large, clear, blue eyes. There was a tragic mistiness about those eyes that inspired sympathy as well as admiration. The wavy blond hair, the rose petal complexion and the well-proportioned figure of the girl who stood before him, seemed to harmonize perfectly with those eyes.

Pryor stammered an apology. "I hope you don't think I am intruding here. My name is Justin Pryor. Lieutenant Spangler asked me to assist him."

"I understand. That's perfectly all right. I am Clara Strickland."

"James Strickland's daughter, I presume."

She nodded.

"I'm very sorry this bereavement has come to you, Miss Strickland. I hope my playing has not disturbed you or your mother."

"Not at all. You play beautifully—so beautifully that I couldn't resist coming to find out who was doing it."

"I'm afraid I don't deserve that. But how about your mother?"

"She is resting quietly now, thank you. Naturally this has been a great shock to both of us; but fortunately we have been trained to bear up under sorrow. Won't you go on with your playing?"

"If you don't mind, I'd rather talk with you." Suddenly realizing that this remark might be construed as undue familiarity, he hastened to add, "I would like to ask you a few questions."

"Questions?" she echoed. "What sort of questions?"

"I don't suppose you know that your father had a premonition that he was going to die and that he engaged me to help him."

"No, Mr. Pryor, I did not know that. Father never did confide any of his affairs to me. He always tried to shield me from anything that might cause me concern. Nevertheless, I couldn't help noticing that father seemed to be worrying a great deal during the past few weeks."

"He *was* worried," Pryor corroborated her. "He feared that someone was plotting to kill him."

"Are you sure of that?" she asked anxiously.

"Absolutely."

"And did father tell you whom he suspected of plotting against him?"

"He didn't have the slightest idea. That's why he engaged me. I'm supposed to be a sort of solver of puzzles, you know. Unfortunately I was not able to start on the case until this morning—after it was too late to help him. I cannot tell you how sorry I am now."

"I appreciate your attitude, Mr. Pryor. But surely you don't believe that my father was—was——"

"Please don't say it," Pryor pleaded. "The question is still an open one. Possibly your father's fears were groundless and it was just a coincidence that he happened to succumb this morning."

"I hope so, for mother's sake."

"I can readily appreciate your feelings," Pryor said, sympathetically. "But under the circumstances I'm afraid it is going to be necessary for us to make at least a superficial investigation. It may expedite matters if you will help me clear up one or two important matters. Do you mind?"

"Not at all. I shall be glad to help you in any way I can."

"Thank you. My first questions may sound a bit personal but they are really of a routine nature—the kind of questions that are always asked in a case of this sort. From what you have already told me, I infer that your father and mother got along well together."

"Oh, yes, indeed. Mother didn't approve of father's —er—business activities, of course, but she never voiced any objections to him personally."

"I see. Your father seems to have been well-to-do. I presume all his property will go to you and your mother."

"I suppose so. But father really owned very little. This home, our cars and most of our other property were bought with mother's money. She inherited a substantial legacy from her grandfather."

"I see. Is there anyone you know of who would derive any benefit from your father's death?"

"Absolutely no one. That is, no one whom I know about," she amended.

"Did your father have any enemies? I mean outside of the persons who denounced him because of his supposed participation in the Whipple episode?"

"Not that I know of."

"Thank you. So much for routine queries. Now I am going to ask you a very pertinent question: What do you know about Jackson, the butler who took Hathaway's place?"

"I know very little about him, except that he seemed to be extremely anxious to please us."

"Do you know how he happened to be selected to take Hathaway's place?"

"Oh, yes. It was through Hathaway himself. He made a very reasonable request for a leave of absence so he could spend Christmas and the week following with his relatives. He recommended Jackson as a competent substitute."

"I see. I presume that Jackson had access to your father's bedroom—I mean during times when Mr. Strickland was either absent or asleep?"

"Why, of course. Father never would have a personal valet. Jackson was frequently called upon to help him to undress when he was—when he wasn't feeling well."

"You said a moment ago that your father has been worried. Under the circumstances it is perhaps only natural that he may have used liquor more than usual."

"Yes. He drank a great deal. Possibly that had something to do with his untimely death."

"Undoubtedly. And was it after he had been drinking that Jackson was called upon to help undress him?"

"Yes. That happened nearly every night during the past week."

"Did he do his drinking at home or somewhere else?"

"At home. I don't believe he left the house during the past three days."

"I see. About how old is Jackson?"

"Close to fifty, I would judge."

"Will you please describe him to me?"

"He is of medium build—somewhat stocky. I would say that he weighs about one hundred and forty pounds and is about five feet six inches tall. He is quite active, although he is stoop-shouldered. His eyes are pale blue. For a man of his age his hair is unusually thick. It is light brown, streaked with grey. It extends down on his face for some distance."

"Do you mean he has a beard?"

"I suppose you would call it that. His beard is the kind that English butlers are supposed to wear—sideboards, I believe they are called."

"I see. Does Jackson wear glasses?"

"No. His eyesight seems to be good without the aid of glasses."

"Did you notice anything peculiar about him?"

"In what way?"

"Does he seem to be a typical servant? I mean in his speech and conduct."

"His manners are excellent, if that's what you mean."

"How about his vocabulary? I can easily tell that you are very well educated yourself. Hasn't it impressed you that Jackson's vocabulary is that of a scholar rather than a servant?"

"Now that you mention it, I believe he does give the impression that he is a man of learning. But that's not at all surprising. During times like these there are lots of Oxford graduates who are glad to take positions as servants in order to make both ends meet."

"Quite true. That's about all I need to know for the present. Thank you very much."

"You are welcome, Mr. Pryor. But surely you do not suspect Jackson of doing anything wrong. If you do, I am certain you have made a mistake. He is such a sweet, kind-hearted man. I am sure he could never harm anyone."

At that moment the front door opened and Spangler came rushing in.

"Oh, excuse me," he said, when he saw the girl.

"You have met Miss Strickland, have you not, Lieutenant Spangler?" Pryor assumed.

"Sure I have. How are you, Miss Strickland? Sorry we have to bother you like this."

"That's quite all right," she answered graciously. "Mr. Pryor and I had an interesting conversation."

"I took the liberty of asking Miss Strickland a few routine questions," Pryor explained.

"Will you excuse me now?" the girl asked. "I think I'd better see how mother is."

"Do so, by all means," Pryor urged her as he escorted her to the elevator.

CHAPTER VII

The Coroner's Report

WHEN the rectangle of light on the translucent door had shrunk to a mere thread, Pryor turned and inquired, "Did you catch your man, lieutenant?"

"No such luck," Spangler growled. "He made a clean getaway. I've got the dragnet out, but now that he is loose it's like fishing for one particular sardine in the whole Pacific Ocean. Did you find out anything from the girl?"

"Nothing very significant. But what I did learn seemed to corroborate my theory." And he gave the detective an account of his interview with Miss Strickland.

In the middle of the narrative the latch of the elevator clicked and out stepped a stout, bald-headed man who was carrying a small leather case.

"Oh, hello, Doc!" Spangler greeted him. "Shake hands with Mr. Pryor." To the business counsellor he announced, "This is Doctor Sheldon, the coroner."

"How do you do, Doctor Sheldon?" Pryor said. "Have you satisfied yourself as to the cause of Mr. Strickland's death."

"Oh, yes. Yes, indeed. It looks very much like a case of cerebral hemorrhage."

"Do you mean that you think Mr. Strickland died a natural death—that he was not murdered?"

"It doesn't look like murder to me. There are no marks on the body to indicate any act of violence."

"Isn't it possible that his death was caused by poison?"

"Possible but not probable. The only way to make sure of that is by analyzing the viscera and I have made arrangements for having that done at once. But I'm willing to gamble on it that the tests will all be negative."

"No doubt they will," Pryor agreed. "But what about sunstroke? Wasn't the condition of the body the same as would have been the case if Mr. Strickland had died from sunstroke?"

"Sunstroke? Say, are you trying to ridicule me?"

"Of course not, doctor. I realize that it sounds like nonsense to suggest that a man could die of sunstroke in his bathroom on a January morning, but there is method in my seeming madness, nevertheless. Perhaps I ought to explain that Mr. Strickland received a threatening letter a few days ago and the author of the note hinted that he had caused the death of five other men, all of whom had died of sunstroke."

"I'm afraid that's too deep for me. But I can assure you positively that Strickland's death was *not* caused by sunstroke, heat exhaustion, or anything like it."

"And when do you expect to have the chemist's report?"

"Unless he runs into unexpected difficulties, it ought to be ready by tomorrow afternoon."

"Thank you. And, by the way, doctor, I suppose you took a look at the place where Mr. Strickland's body was found?"

"Sure I did. He was found in the bathroom. Nothing to arouse suspicion there, I can assure you."

"How about the light in the bathroom? Didn't you notice anything peculiar about that?"

"Nothing except that it was still turned on. I switched it off myself."

"And are you sure that the lamp bulb was not an unusual one? For instance, isn't it possible that it was a special kind of lamp—the kind that emits ultra-violet rays?"

"Of course not. The kind of light you have in mind would require a special fixture."

"Why is that?"

"Because it operates on a low voltage—about ten or

twelve volts. The lamp has to have a transformer to cut down the line voltage."

"And how about the globe itself? I've seen pictures of those therapeutic light globes. To me they looked just like any ordinary globe."

"They may look the same in a picture but they are altogether different in reality. The kind of lamp you have in mind has both a filament and a carbon arc. It also has some mercury inside the globe. When the juice is turned on the mercury vaporizes and that's what produces the ultra-violet rays."

"I see. And you are sure that the globe in Mr. Strickland's bathroom contained no mercury?"

"I'm not exactly prepared to swear to it," the coroner hedged. "If there is any doubt about it we can easily find out right now. Suppose we have another look at that bathroom."

Entering the elevator the three men descended to the floor on which Strickland's room was located. Spangler, who was the tallest of the trio, stood on the edge of the bathtub and was just able to reach the globe. He unscrewed it and handed it to Doctor Sheldon.

"You see!" the coroner cried triumphantly, "It is an ordinary light globe—just as I said it was." He handed the lamp to Pryor, who examined it carefully and had to admit that there was nothing unusual about it. Nevertheless, while the other two were leaving the bathroom, Pryor slipped the bulb into his coat pocket.

"Are there any other matters you would like to have cleared up?" Sheldon asked as they reentered the living room.

"Not that I can think of right now. Thank you very much for the help you have already given me."

When the coroner had left, Spangler remarked, "This electric light business is all Greek to me. What did you have in mind when you asked Doc about the globe in the bathroom?"

"Only this: You doubtless know that direct sunlight contains certain rays that are not included in ordinary artificial light. Among these are included the ultra-violet rays. They are supposed to have powerful actinic effects. For instance, there is reason to believe that sunburn of the human skin is caused by the ultra-violet radiations."

"What's that got to do with Strickland's death?"

"Just one of those hunches of mine, that's all. It occurred to me that, since the death of the other five men was associated with exposure to direct sunlight, Strickland's death might have been caused by some substitute for sunlight, as for instance, one of those ultra-violet ray lamps that Doctor Sheldon told us about."

"I SEE what you're driving at now. But I'm afraid you're barking up the wrong tree this time."

"Maybe so," Pryor laughed good naturedly. "Sometimes we have to bark up a lot of trees before we find the one in which our quarry is hiding."

"True enough. And where do we start barking now?"

"My suggestion is that we find out all we can about the circumstances surrounding the death of those other five men."

"I should worry about them," the detective objected. "You understand, don't you, that I'm not interested in any murders that were committed outside my territory. The only one I am concerned about is Strickland. I'm directly and definitely responsible for investigating his death. But I have nothing to do with the other five."

"That I realize fully, lieutenant; but don't you understand that unless we are familiar with what happened to the others we may overlook some important point in connection with Strickland's murder? Furthermore, if we can prove that the same man was associated with each of the other five prior to their deaths, we will be able to weave a net of evidence around him from which even the cleverest of criminals could not escape."

"Now I get you. What do you want me to do?"

"Suppose you communicate with the authorities in the places where each of these five men died. No doubt you have connections that will enable you to obtain the desired information, including a full account of the circumstances surrounding their deaths. If it is possible. I think we should also try to obtain descriptions of any new friends, servants, or associates, whom these men came in contact with immediately prior to the dates when they had their fatal attacks of sunstroke. Perhaps it might be a good idea to ascertain whether or not the victims had anything to do with a man answering Jackson's description. And, by the way, how about a picture of our suspect? Do you suppose we could get hold of a good likeness of him?"

"I'm afraid not. Folks like the Stricklands are not in the habit of exchanging portraits with their butlers, and we don't know a thing about Jackson's family."

"Perhaps Hathaway knows something about him," Pryor suggested.

"That's a good hunch. Let's find out." Spangler rang and a few minutes later, Hathaway made his appearance.

"What do you know about this man Jackson?" the detective demanded.

"Very little, Sir. You see I met him by accident."

"You met him by accident?" Spangler roared. "What do you mean by that?"

"It happened about three weeks ago, Sir—on one of my evenings off. I decided to attend a cinema on Hollywood Boulevard. The play was very interesting, Sir. It was about a gentleman who masqueraded as a butler. The name of it was——"

"Never mind the name of the show," Spangler interrupted him. "What I want to know is, how did you meet?"

"There was a line waiting for the nine o'clock show. The man standing next to me made a chance remark and we started a conversation. Like myself, he was alone. He seemed to be such an agreeable chap that I suggested that we sit together during the show. After the show, he invited me to have a cup of coffee and a sandwich with him. He told me that he was a butler and seemed greatly surprised when I informed him that my occupation was the same as his. It was then that he made the proposal to me."

"What proposal?" Spangler wanted to know.

"The proposal to take my place, so that I could go on a vacation over New Year's. He told me that he had not been employed for some time but that he had saved enough money so he had no reason to worry. On the other hand he seemed to be afraid that he would get out of practice if he didn't keep his hand in. For that reason he was willing to do my work without compensation."

"So that's how it happened, is it?" the detective interposed. "Let me get this straight: You meet this

man at a picture show. He buys you a sandwich and proposes to you to let him take your place. He agrees to work for nothing, so you can take a vacation with full pay—is that correct?"

"Yes, Sir."

"And without knowing anything more about this man you recommended him to your employers and permitted him to be brought into their home as a trusted servant?"

"But Mrs. Strickland was perfectly satisfied with the arrangement, Sir. Jackson came here three days before I left and worked with me so that he was thoroughly familiar with my duties."

"I'm not thinking about how he made good on the job. What seems queer to me is that you and Mrs. Strickland should place so much confidence in a perfect stranger."

"It is true that in one sense he was a stranger to me," Hathaway tried to defend himself. "But he was such a nice honest-looking man that I had no hesitation about recommending him. I hope he hasn't stolen anything."

"I guess he didn't steal anything," Spangler growled. "But he may have done something a lot worse."

"What do you mean by that, if you please, Sir?"

"Never mind what I mean. What does this man Jackson look like?"

Hathaway's description of the substitute butler coincided with the one which Miss Strickland had given Pryor except that the servant estimated Jackson's age to be fifty-five and his weight to be one hundred and fifty pounds. He referred to Jackson's hair as "sandy" and his eyes as "dark blue."

Jotting the details down in his notebook, Spangler said, "I don't suppose there is any use of my asking you if you know where he came from or where his folks live."

"I'm afraid not, Sir. He never mentioned those matters to me. In fact he very seldom spoke about himself."

"I can easily understand that," Spangler said in a tone intended to be sarcastic. "That will be all."

When the butler had left the room, Pryor remarked, "By the way, there's one more angle of this case that ought to be worth investigating and that is the antecedents of the Whipples. Assuming that Jackson, or someone else, shouldered the task, not to mention the serious risk, of avenging the death of Ruth Whipple and her father it is only reasonable to assume that he must have had a closer interest than merely the desire to see justice done. Do you suppose you could find out if the Whipples had a relative or close friend who is now living in California?"

"I'll see what I can do," Spangler promised. "Maybe a letter to the police in Whipples' home town will supply the desired information."

CHAPTER VIII

Poisonous Light

FROM the Strickland home Pryor drove to the Barlow Medical Library on North Broadway. In response to Pryor's request for information concerning sunstroke, the librarian, who was a woman, asked, "Are you a doctor?"

Pryor answered in the negative.

"I'm sorry," she said, "but this library is exclusively for the use of doctors."

Nevertheless, thanks to training as an advertising man, Pryor finally "sold her the idea" of permitting him to use some of the books in the library.

He learned that the medical term for what is commonly known as sunstroke is "heat exhaustion." Those suffering from heat exhaustion are usually found unconscious with temperatures well above 105 degrees, one of the books informed him.

For an hour or so he ploughed through a tangled wilderness of technical verbiage which seemed to draw him further and further from his goal. Then suddenly he burst into a clearing in the form of this significant sentence: "Heat exhaustion is sometimes diagnosed as cerebral hemorrhage or apoplexy."

Thanking the librarian profusely, he hurried out of the building and pointed the radiator cap of his car toward the Los Angeles Public Library. Browsing around among the books on physics and chemistry did not yield a single blade of pertinent information. Then he tried the Reader's Handbook and was rewarded by discovering a significant article in the 1921 volume of the Journal of the Chemical Society.

It was a report presented to the British Association for the Advancement of Science, describing a series of experiments which had been performed by Professor E. C. C. Baly and I. M. Heilbrom. By passing a current of carbon dioxide through water exposed to ultraviolet light, these two scientists had produced formaldehyde. The same effect was also obtained with ordinary light when malachite green was used as a catalyzer.

This would have meant little to an ordinary layman, but Pryor knew enough about chemistry to realize that this experiment represented the first step toward the fulfilment of the scientist's fondest dreams—that of creating living beings from inorganic materials. Man had at last succeeded in performing a creative process which had previously been regarded as a monopoly of nature. He had constructed an organic substance out of materials that were exclusively inorganic. Any green leaf can accomplish this feat of magic, but hitherto it had baffled human ingenuity.

Formaldehyde has the simplest possible formula for a carbohydrate. It is CH_2O. Plant physiologists believe that when a growing leaf is exposed to the sunlight the carbon dioxide gas (CO_2) in the air is reduced to carbon monoxide (CO), which, uniting with the hydrogen of the water (H_2O) in the cell, forms formaldehyde (CH_2O). In the leaf of the plant this molecule multiplies itself by six and turns into a sweet, solid glucose ($C_6H_{12}O_6$) or, with the loss of water, into starch ($C_6H_{10}O_5$).

Reflecting on the experiments of Baly and Heilbrom, a scientist would naturally ask, "If man can artificially build an organic compound, using only inorganic materials, what is to prevent him from creating life itself in a test-tube?"

But that wasn't the question that popped into Pryor's mind. After all he was not a professional chemist, he was a solver of puzzles. To him the most significant consideration was this: Using innocuous materials and energy that abound everywhere, namely water, carbon dioxide and *LIGHT*, two scientists had produced an acrid smelling gas, called formaldehyde and known to be a deadly *POISON*.

Like a bloodhound that has just caught a fresh scent, Pryor searched eagerly for more information concern-

ing the use of light in the artificial production of formaldehyde and similar compounds. In a book called "Biochemistry" by Dr. Benjamin Moore, he found this significant passage: "Such simple substances as formaldehyde, formic acid, oxalic acid and hydrogen peroxide are all poisonous to the highly organized and labile colloids of the bioplasm, and probably on account of that property which makes them essential in the first stages of evolution—namely their high reactivity and the ease with which they take part in additional reactions of organic substances. For this reason they must undergo change in any living cell while still at high dilution, or else they so interlock into the labile system of organic colloids within the cell as to clog all metabolic change. Hence it is that energy of light, which is essential to healthy growth and the upbuilding of organic material from inorganic, supplied in a wrong fashion, may reverse these delicate processes and cause death and degeneration of living substances."

Though Pryor had the feeling that he was "getting warm," he knew that he had not yet found the key that would unlock the door of his puzzle-case. So he continued his search. Late in the afternoon he stumbled across a book that was so small and insignificant looking that it might easily have escaped his notice. This gave him exactly what he had been hunting for—the name of a substance which was not a poison but which, when introduced into the human system in the presence of sunlight or its equivalent, would produce physiological effects similar to those caused by sunstroke.

This treatise told of experiments made by Dr. Fritz Schanz of Germany, who had observed some remarkable transformations effected by haemato-prophyrin, an iron-free disintegration product of the blood pigment, hæmoglobin.

"In a dilution of one to eighty thousand it is capable of killing cultures of paramaecia in the light of a cloudy winter day." Dr. Schanz was quoted as saying: "It is also capable, in the presence of light, of dissolving the red blood corpuscles of the most various kinds of animals.

"In the dark, however, this substance has no effect," according to the article. "It is active only in the presence of light. The reason for this is not, as might be supposed, that light converts the haemato-porphyrin into a poison. On the contrary, solutions of this substance can be exposed to the light for a long period without becoming a bit more poisonous than when kept in the dark.

"By making use of this substance the warm blooded animals can be rendered sensitive to light in the highest degree. If small quantities of it are injected into white mice the animals show no signs of injury as long as they are not exposed to the light. But Hausmann found that even the diffused daylight of an early spring day in Vienna was sufficient to produce death in mice which had previously been injected with a solution of this substance. Neither the haemato-porphyrin alone nor the light alone, even in great intensity, is capable of injuring the animals. The injury is caused by the combined effects of the two. The acutest form of this malady produces a deep narcosis in the animal within a few minutes, after which death rapidly ensues. Hausmann gave this condition the name of 'lightstroke' and he is of the opinion that *a great many cases of sunstroke are connected with similar processes of sensitivization.*"

Feeling well repaid for his afternoon of study, Pryor returned to his home and spent a pleasant evening solving cross-word puzzles.

CHAPTER IX

More Light On the Subject

AT nine o'clock the following morning, Pryor instructed his secretary to call up the local plant of a world-famous manufacturer of electrical equipment.

"I understand that you have an electric lamp that produces ultra-violet rays," he began the telephone conversation.

"We have several such devices," the man at the other end of the line told him.

"Is it true that all lamps of this sort require special equipment?"

"All those intended for human beings do. They operate on low voltage, you understand. But the equipment we sell includes a transformer. It is built right into the unit. You can plug it into any outlet in your home."

"I see. But how about the globes themselves? Can they be screwed into an ordinary light socket?"

"Hardly. You wouldn't get the right voltage if you did that."

"The bulbs used with this equipment look different from ordinary light globes, do they not?"

"Yes, indeed. They are altogether different."

"I see. And isn't there such a thing as a lamp that can be screwed into an ordinary light socket that will give off ultra violet rays?"

"There is such a thing, but we don't recommend them for human beings. It is a new product of ours designed especially for use in poultry raising. We call them CX lamps."

"How do they differ from ordinary light bulbs—in appearance I mean."

"Except for the glass, which is made of quartz, the CX lamps are very much like our regular light globes—in fact it would be impossible to tell them apart just by looking at them."

"Couldn't an expert tell them apart?"

"Not without testing the light."

"And how is that done, please?"

"By means of an ultra-violet ray indicator."

"Is there any place where I could see one of these lamps and also one of those ultra-violet ray indicators?"

"Certainly. If you will go to our store on East Second Street, a salesman there will be glad to show them to you."

Acting on this suggestion, Pryor visited the store on East Second Street. He took with him the light bulb which he had filched from Strickland's bathroom. An accommodating salesman showed him one of the CX lamps. It looked exactly like an incandescent light globe such as are used for house lighting. In response to Pryor's query regarding the ultra-violet ray indicator, the salesman showed him a small object which resembled a jeweler's magnifying glass, such as a watchmaker inserts in his eye-socket when he examines the internal workings of a watch. It was about two and one-half inches long. At one end was a glass eyepiece about three-sixteenths of an inch in diameter. The opposite end was partly covered by a strip of purple colored glass.

Following the salesman's instructions, Pryor held the indicator up to his eye and pointed it at several different

sources of light, including the front window of the store and a light globe in a ceiling fixture which was turned on.

"I don't see anything unusual," he announced.

"You're not supposed to see anything unusual unless ultra-violet rays come through the indicator."

"But daylight includes ultra-violet rays, doesn't it?"

"Not after it passes through that window. Ordinary glass cuts off the ultra-violet rays. Only quartz glass will permit them to pass through. This globe is made of quartz glass. I'll screw it into this socket and turn on the juice. Now take a look."

Pryor squinted through the indicator and was surprised to see the letters U. V. R. appear as if by magic.

"Now I see something," he declared. "It looks like the letters U. V. R."

"That's what you are supposed to see when the light you are looking at contains ultra-violet rays," the salesman informed him.

"Is there any other way of distinguishing between these CX lamps and ordinary electric bulbs?"

"Not that I know of."

"Thank you. And now I wonder if you will permit me to test this lamp which I brought with me."

"Why certainly." The man inserted the lamp from Strickland's home in a socket and switched on the current.

When Pryor directed the violet ray indicator on it, the letters U. V. R. showed up as before.

"Does that prove positively that this lamp is one of your CX lamps?" Pryor asked.

"Not necessarily. All it proves is that the light given by the lamp contains ultra-violet rays. However, I think it is reasonably certain that this is one of our lamps. I don't know of any other light globes of this sort that will give an ultra-violet ray."

"You keep a record of all your sales of these lamps, do you not?"

"Oh, yes, indeed. You see this lamp is still in an experimental stage. We ask all those who buy them to let us know what results they get from using the lamps."

"I see. Is there any way you could trace the purchaser of this particular lamp?"

"Hardly. The lamps are not numbered. They all look alike. I don't see how we could be expected to identify any individual one of them."

"Could a lamp like this be purchased anywhere else in Los Angeles except here?"

"Not that I know of."

"I wonder if you could tell me whether you have sold one of these CX lamps to a man named Jackson."

"Our records would probably answer that question. But your request is rather an unusual one. Would you mind telling me your reason for wanting to know this."

"Why yes, of course. I'm a special investigator for the Los Angeles homicide squad. I have reason to believe that this light had something to do with the death of a man. Do you understand?"

"Oh, yes. In that case we shall be glad to cooperate with you."

But the name Jackson did not appear in the list of persons who had purchased CX lamps. Neither could any of the salesmen remember serving a customer answering Jackson's description.

"Have any of these lamps been purchased by the science departments of universities?" Pryor asked.

"Practically all the universities in Southern California have been supplied with one or more CX lamps apiece," the salesman replied. "We furnished them free to those who agreed to experiment with them and give us reports of the results."

"They went to the chemistry departments, I suppose."

"In a few cases. Most of them were sent to the heads of the physics departments."

CHAPTER X

What the Autopsy Showed

REALIZING that he was only a few blocks away from Spangler's office, Pryor left his car in a parking station and walked to police headquarters. He was fortunate enough to find the detective in.

"Oh, hello, Mr. Pryor," Spangler greeted him. "What do you know?" Without waiting for an answer to this trite and banal question he went on, "Hope you haven't wasted any time on that Strickland case."

"I have been working on it ever since I saw you last," Pryor told him. "But I haven't wasted my time by any means. On the contrary, I feel that I have made very satisfactory progress toward the solution of the mystery."

"Yes. But in this case there doesn't happen to be any mystery."

"What do you mean?"

"I just got the coroner's report. He still sticks to his original verdict. Strickland died of cerebral hemorrhage. There isn't any doubt about that, according to Doctor Sheldon. Not the slightest trace of poison was found in the viscera."

"I didn't expect there would be. Nevertheless I have strong reasons for believing that Strickland's death was caused by the action of ultra-violet light on a solution which had been previously injected into his blood by a person with murderous intent."

"What in the world put that idea into your head?"

Pryor told him what he had learned about haematoporphyrin and about the nature of the lamp which had been removed from Strickland's bathroom.

"That's all very interesting," Spangler condescended, "But I don't see that it proves anything about Strickland's death."

"What more proof do you want?" Pryor snapped. "How else would you account for the presence of a very unusual kind of ultra-violet ray lamp in Strickland's home?"

"It might have gotten mixed up with the regular lamps at the factory. You said yourself that it looks like an ordinary light bulb."

"That's true, but it is hardly conceivable that a concern like the American Electric Company could permit a special, experimental lamp such as this one to become mixed with ordinary light globes."

"All right. Suppose we say that the lamp must have been put there on purpose. What of it?"

"It is logical that whoever put it there intended that it should produce a lethal effect on Strickland, after a solution of haemato-porphyrin had been injected into his blood."

"And you think Jackson did that?"

"I certainly do."

"But how could a butler get away with anything like

that? Strickland certainly would not permit him to inject a drug into his blood."

"Not if he knew about it, of course. Jackson probably did it while Strickland was heavily intoxicated. He has had plenty of opportunities to do that."

"And do you think he used the same system on Torres, Muller and the other three?"

"With variations. All five of them were chronic drinkers. Jackson could easily have become acquainted with them by buying drinks for them. It would not have been difficult for a man of his skill to inject the drug into their arms while they were drunk and unconscious. In their cases, of course, it was not necessary to use ultra-violet ray lamps. They all died while they were bathing out of doors during the summer months."

"That's right. But, as I said before, Strickland's death is the only one I need to worry about. If Jackson injected a drug into his blood he must have left the mark of the hypodermic syringe somewhere on his body. It ought to be easy enough to get a check on that. Let me see if I can get Doctor Sheldon on the phone."

When the girl at the switchboard had made the desired connection Spangler picked up the telephone and said, "Hello, Doc. About that Strickland case: Did you notice any marks on his arms or legs that looked like they might have been made by a hypodermic needle?"

.....

"Why didn't you tell me about that before?"

.....

"Was there more than one mark?"

.....

"Then that doesn't look like he was using dope regularly, does it?"

.....

"Thanks, doc. So long."

Before Spangler had time to hang up the receiver, Pryor fired an eager question at him: "What did Doctor Sheldon say? There was only one needle mark on his body, wasn't there?"

"Yes. It was on his upper left arm, right in the middle of his vaccination mark. Sheldon said he might easily have overlooked it because of its location."

"What did he say when you asked him why he had not mentioned it to you before?"

"He said he didn't think it was important since the chemist had made thorough tests for morphine and other poisonous drugs and had obtained negative results for all of them."

"Naturally. Haemato-porphyrin itself is not a poison. Even if it was, it is doubtful if the chemist who made the tests would know how to detect its presence. I imagine its use is not very well known except by those who specialize in biochemistry. Under the circumstances, doesn't it seem possible that my theory is correct?"

"Maybe it is," the detective conceded. "But the whole idea sounds awful fishy to me. To be frank with you, I'd rather accept the coroner's verdict that he died of cerebral hemorrhage." Then, with a grin, he added, "It will make things a lot easier for me."

"I don't think you really mean that, Lieutenant," Pryor smiled. "Nobody who knows you well would ever accuse you of shirking your duty."

"There are plenty of guys who would like to have a chance to accuse me of doing that little thing," Spangler remarked. "But in this case, I don't feel justified in spending any more of the taxpayers' money on what looks like a wild goose chase. So I guess we may as well drop the case right now."

"But surely, Lieutenant, you are not going to quit now," Pryor pleaded. "It seems to me that, in spite of the short time we have been working on the case we have already made remarkable progress."

"Oh, you don't need to worry about your money, Mr. Pryor. Just figure out what your expenses and charges have been to date and I'll see to it that a voucher is sent to you."

"I'm not thinking of my own remuneration," Pryor said in an injured tone. "Unless I succeed in solving this problem, I don't expect to receive a penny. And, whatever you decide to do on your own account, I intend to keep everlastingly at it until the solution is completed."

"If you do that I'm afraid it will have to be at your own expense."

"Very well, then. I *will* go ahead at my own expense. Concerning the work I have already done, I would like to make a bargain with you. Yesterday morning I asked you to communicate with the authorities in Long Beach, San Diego, San Francisco, Texas and Iowa in an endeavor to obtain certain important information. I presume that you, with your usual efficiency have taken care of all these matters."

"Sure I have. But I was just about to send out a flock of wires canceling my previous requests."

"You haven't sent them yet, I hope."

"There hasn't been time."

"Then will you do me this favor: Let matters rest until you receive answers to your original wires. When they come in, please turn them over to me. Will you do that?"

"Sure I will. But I'm afraid they won't help you any. I've already received an answer from San Diego. Here it is:

He handed a telegram to Pryor, who read the following message:

"HAVE QUESTIONED SEVERAL RELATIVES AND FRIENDS OF TORREZ AND MARVIDO STOP NOBODY REMEMBERS SEEING THEM WITH MAN ANSWERING DESCRIPTION OF JACKSON STOP CORONER STICKS TO ORIGINAL VERDICT."

As Pryor handed back the yellow slip, Spangler said triumphantly, "You see? Doesn't that prove that you are on the wrong track?"

"It doesn't prove anything," Pryor insisted, "except that most people are woefully lacking in powers of observation."

"And do you still want me to hold back those cancellation wires?"

"If you please."

"And how about the dragnet I threw out to catch Jackson? Want me to keep that working?"

"It can do no harm. But to be frank with you, Lieutenant, I haven't much confidence in the efficiency of what you facetiously call your dragnet."

Spangler laughed good naturedly. "Guess you scored a clean hit on that one, Mr. Pryor. Is there anything else I can do to help?"

"No thank you. But perhaps I ought to tell you this:

Now that I am working on my own I shall not feel obligated to turn the murderer over to the authorities unless I consider it the right thing to do."

"I think I can safely leave that to you," Spangler consented. "And incidentally, I'll have to hand it to you for guts—even though I think you are a bum business man."

"What makes you say that?"

"Because you are wasting your time and spending your own dough without any chance of gaining profit."

"You mean financial profit, of course. But you must remember that there are other kinds of rewards besides financial ones. To me the thrill I derive from working out a complicated puzzle or solving a problem that looks insoluble is worth a great deal more than money. I have never yet failed to complete successfully any of the tasks I have undertaken. I rap on wood when I say this, but I don't intend that the Strickland case shall mar an otherwise unblemished record."

"I suppose you have planned what you are going to do next."

"Oh, yes. My plans are well formulated. Fortunately my list of suspects is bound to be small."

"Your list of suspects?" Spangler questioned. "I thought you had already decided that there was only *one* suspect."

"You mean, I presume, the man who called himself Jackson," Pryor rejoined. "I still believe that he is the man I am seeking. But his name isn't Jackson now. Furthermore, I doubt very much if the descriptions Miss Strickland and Hathaway gave us will help except in a very general way."

"What do you mean by that?"

"I mean that while he was masquerading he probably changed his appearance as well as his name. If we had several photographs of him we might be able to recognize him in spite of these changes, but I'm afraid that the verbal descriptions will be useful only as a means of eliminating those who differ from him radically in such fundamental matters as height, weight and color of eyes."

"Then how do you expect to identify him when you run into him?"

"I will induce him to talk. A murderer will always betray himself when he talks unguardedly about events connected with his crimes!"

"But where are you going to look for him?"

"Among the men who possess the scientific training requisite for committing those six murders.

"Then you think it was done by a scientist, do you?"

"There is no doubt of it in my mind."

"Isn't it possible that an ordinary crook could be a scientist too—at least enough of a scientist to pull a job like this, and get away with it?"

"Hardly. The criminal mind and the scientific mind are as far apart as the stars. To be a real scientist a man must have a fervent passion for truth—and that, by the way, is one of the clearest indications of morality. The true scientist is glad to sacrifice his own material benefit, his pleasures—his very life if need be—for the sake of adding one page, or even a single sentence, to the world's store of knowledge.

"A confirmed criminal, on the other hand, has no regard for the truth. He is selfish and self-seeking. He is unwilling to make sacrifices or to work hard. He follows the path of crime because he thinks it is the easiest way. Furthermore, the pursuit of science requires more than average intelligence; and I can't conceive of a really intelligent person becoming a professional criminal."

"That sounds swell," Spangler interposed. "But it seems to me you are kind of inconsistent. A while ago you said you were sure that six murders were committed by a scientist and now you as much as say that no scientist could possibly become a criminal."

"'Professional criminal' is the term I used," Pryor corrected him. "It is my belief that the murderer in this case had never before committed a crime and he will probably never commit another one. He must have had some personal interest in the Whipple girl—an interest that was strong enough to induce him to avenge her after what he considered a miscarriage of justice."

"Maybe you're right," Spangler conceded. "Anyway, I wish you the best of luck."

"Thanks, Lieutenant," said Pryor as he reached for his hat. "Perhaps I shall need all the luck you can wish me."

CHAPTER XI

A Significant Experiment

PRYOR'S next visit was to the chemistry laboratories of a well known California university. After a great deal of confused wandering up and down the halls of the science building, he finally located an instructor and asked him where he could obtain some information concerning biochemistry. He was told that all the chemistry professors would be busy with their classes until three o'clock and was advised to return then. This Pryor decided to do. In the interim he went to the University Library and became so absorbed in a book on cryptograms that it was nearly four before he came to himself and returned to the science building, where he finally located Doctor Otto Bauer, professor of organic chemistry.

"I am looking for information concerning the effect of ultra-violet light on chemical compounds," Pryor began.

"Just what do you desire to know?" Professor Bauer asked.

"I'm looking for a very unusual substance. Introduced into the blood stream of an animal this drug makes it extremely sensitive to light. The compound itself is not poisonous, you understand. Neither does it become poisonous when exposed to the sunlight. But if a dilute solution of the material is injected into the blood of an animal, the creature will die as soon as it is exposed to the sunlight or to ultra-violet rays produced artificially. Do you know of any such substance?"

"Your question is a very singular one," the professor stalled. "I wouldn't want to answer it positively without time for reflection. Offhand, however, I don't seem to recollect ever hearing of a chemical compound such as you describe."

"Perhaps the name of this substance will help," Pryor prompted. "It is called haemato-porphyrin."

"I'm sorry but even the name is not familiar to me," Bauer admitted. "It must be a very unusual reagent. From the sound of it, I would infer that it has something to do with blood. Let's see if I can find it in the chemical dictionary."

He picked up a large volume and thumbed through it.

"Here it is," he cried. "Haemato-porphyrin: An iron-free disintegration product of haemoglobin."

"Is that all the book says about it?"

"That is all. There is nothing here about its effect on animals or of its relation to ultra-violet rays."

"And you say there is nothing that would produce an effect such as I have described?"

"Nothing that I know of. You understand, of course, that the chemistry of the blood is a very specialized study. That doesn't happen to be one of my specialties."

"Do you know of anyone who is a specialist in this branch of chemistry?"

"Why, yes. I know of at least a score."

"Are any of them living in California?"

"Several of them. Let me see, there is Winthrop and Cummings and—"

"Just a moment, professor," Pryor interrupted him. "Would you mind dictating the names to me slowly so I can take them down. I'd also appreciate it if you will tell me where I can find these men."

When the list was completed, it contained eight names. By means of a simple question addressed to Professor Bauer, Pryor eliminated two names, thus reducing the number to six. The question was, "Do you know whether any of these men are unusually tall?"

"I haven't met all of them personally," the professor informed him, "But I do know that Cummings is over six feet tall and Upton must be five feet ten inches."

Since Jackson had been described as short, and stocky, Pryor felt safe in eliminating Cummings and Upton from his tentative list of suspects. By phoning to the various universities with which these men were connected he was able to remove two more from the list. They were names of men who had brown eyes. This left four men, all of whom were specialists in biochemistry and all of whom were of about the same general appearance as Jackson.

The first of the quartette whom Pryor interviewed was Professor William E. Woodbury. He certainly did not look like a man who could commit murder. His jolly, clear-skinned face seemed to say emphatically and convincingly, "I am honest. You can trust me implicitly." In his pale blue eyes, Pryor, a keen student of human physiognomy could read nothing but uprightness and wholesome good humor. Though his weight and build tallied approximately with those of Jackson, he was not nearly so old as the butler was supposed to be. Those who had known Jackson had placed his age between fifty and fifty-five, but Woodbury didn't look any older than thirty-five and he couldn't possibly have been more than forty.

Nevertheless, Woodbury proved to be very valuable to Pryor for he furnished him with the name of an additional suspect—a man who probably knew more about the action of light on chemical substances than any other chemist in the west, but who, for some unknown reason, had been left off the list which Professor Bauer had furnished to Pryor. The name of this man was Professor Hermann Wilson.

"If you wish to find out about haemato-porphyrin and the effect which it has when injected into the blood of animals, you have come to the right place," Woodbury told Pryor. "Last year the head of our department, Doctor Hermann Wilson, performed a very interesting series of experiments on white mice. Unfortunately he is not here now."

"You mean he is absent for today only."

"He has been on leave of absence for several months. You see this is his sabbatical year."

"If that's the case I suppose he went abroad to study."

"No. In fact he has been spending most of his time in Southern California. Every once in a while he pops in on us, locks himself up in his private laboratory for a week or two and then disappears as suddenly as he came."

"When was the last time you saw him, if I may ask?"

"About a month ago. He is liable to bob up almost any time now."

"What sort of looking man is Professor Wilson?" Pryor asked bluntly.

"About my build. Like me, he also has blue eyes and sand-colored hair."

"Is he as tall as you are?"

"Not quite. About an inch shorter I would say."

"And you are about five feet eight inches tall, are you not."

"Hardly that much. Five feet seven would come closer to it."

"Your colleague is an older man, I presume."

"Not so very old. He's only fifty-one."

"And you are about, thirty-five?"

"More than that. Thirty-eight, to be exact."

"Thank you. I hope you do not think I am too inquisitive."

"Not at all."

"Are you familiar with Professor Wilson's experiments?" Pryor inquired.

"Oh, yes. I helped him with some of them. But I finally had to beg off."

"And why was that, if I may ask?"

"I hate to tell you," Woodbury grinned sheepishly. "The fact of the matter is that I am altogether too squeamish to be a good biologist. Inorganic chemistry is more in my line. You see I can't stand seeing helpless little animals suffer."

"I can readily understand that," Pryor assured him. "How about Professor Wilson? From what you say I don't imagine he has any compunctions against inflicting pain on animals in the interests of science."

"Oh, you mustn't think he is cruel or anything like that. He's just a good scientist, that's all. He takes the attitude that the end justifies the means."

"Would you mind describing the experiments which you saw Professor Wilson perform."

"Why certainly. But just a minute. That sounded like Doctor Wilson's step." Woodbury darted to the door, threw it open and called down the corridor: "Doctor Wilson! Would you mind coming into my office?"

A moment later Pryor was being introduced to the eminent chemist. Professor Wilson's countenance was grim and forbidding. It looked like the face of a man who had met with a fearful tragedy and had become soured against the entire world. The coolness of his demeanor, which bordered on rudeness, was in marked contrast with the friendly, courteous good nature of Professor Woodbury.

"Mr. Pryor is interested in your experiments with haemato-porphyrin," Woodbury explained.

"Is that so?" Turning to Pryor he demanded. "What are you doing here? Why do you want to know about my experiments? Who are you anyway?"

Driven by necessity, Pryor did some quick thinking

and some glib lying: "I am a veterinarian," he fibbed. "I was engaged by a man who operates a large poultry ranch. Several of his thoroughbred roosters have died mysteriously. From the circumstances surrounding their deaths it looks as if sunlight had something to do with it. I had never heard of any similar cases before, so I studied up on the chemistry of light. It occurred to me that something like that substance may have caused the death of those roosters. I shall appreciate it very much if you will show me one of your experiments or at least explain the principle of it to me."

This ingenious fabrication seemed to satisfy Wilson, for he led Pryor into the sanctorum of his stuffy private laboratory. From a shelf Wilson took down an eight-ounce glass jar and handed it to Pryor. "This," he said dramatically, "is haemato-porphyrin."

Pryor held the jar up to the light. It was about a quarter full of a beautiful, fluorescent, dark red powder.

"I also have it in solution," Wilson explained. "This brown solution is alkaline. The red one is an acid solution."

"Which one do you use in your experiments?" Pryor asked.

"Either. It really doesn't matter. The same results are obtained in either case. Would you like to see the effect which this has on an animal?"

"If it isn't too much trouble."

"If I wasn't willing to do it I wouldn't make the offer," Wilson growled without the slightest suggestion of a smile.

He departed and came back a few minutes later with a white mouse squirming in his bony hand. From a drawer he produced a small black object which turned out to be a tiny sweater. Wilson fitted the odd garment over the animal's body in such a way that only the legs, the tail and the tip of the mouse's nose were exposed.

"Now we'll have to go into the dark room," he announced as he led the way into a tiny chamber which was illuminated only by the blood-red glow of a ruby lamp.

"With an ordinary hypodermic syringe," he explained, "I inject a small quantity of the solution into the blood stream of the mouse. As long as I keep it in the dark it will behave in a perfectly normal manner. But notice what happens when I place it in the sunlight."

He carried the animal back into the laboratory and put it inside a wooden box which was open at the top. It was on a bench in front of a window through which the afternoon sunlight was streaming. Wilson opened the window and placed the box so that the direct rays of the sun shone into it.

"Is it necessary to open the window?" Pryor asked.

"Yes. You see this is ordinary window glass. It is opaque to the ultra-violet rays in the sunlight. If the glass panes of the sash were quartz it would not be necessary to open the window. Watch what happens to the mouse."

For a while the animal scampered around in the shaded part of the box, apparently none the worse for the experience. But when it trotted out into the lighted part of the receptacle, it suddenly began to stagger. In a few seconds its legs crumpled and it lay on its side as if paralyzed.

Wilson picked the box up and carried it back to the dark room. Almost instantly the mouse revived and started to run around as if nothing had happened.

"Why did you put that black garment on the mouse?" Pryor inquired.

"To protect its body from the light," Wilson elucidated. "The paralysis of the animal's limbs which you just witnessed was due to the fact that its legs were exposed to the light. Because only a small part of its body was affected, I was able to revive it by taking it away from the light. Notice what happens when I remove the protection of the sweater."

He picked up the mouse and took off the tiny black garment. Then he put it back in the box and carried it out into the laboratory again. The light from the open window had hardly fallen on the back of the little creature before it toppled over and lay limp and motionless. Back into the dark room the professor carried the box. But this time the mouse did not revive, even after Wilson had tried to bring it back by forcing oxygen into its lungs and by using other methods of resuscitation. Its tiny heart had stopped beating. It had ceased to breathe. It was stone dead.

After witnessing the murder of this innocent animal, Pryor could readily sympathize with Woodbury, who had balked at being a party to such scientific slayings. He said nothing, however, except a word of appreciation and thanks to Professor Wilson.

"By the way, Professor," he remarked, "is it necessary to use direct sunlight in order to produce effects like this?"

"Why do you ask that?"

"I was wondering. You said something about ultra-violet rays. It is possible to produce such rays artificially, is it not?"

"Certainly. I sometimes use artificial sources of light in my experiment. Here is one of the lamps I use."

Pryor bent over and looked up at the light bulb.

"I suppose that metallic spot is mercury," he remarked.

"Yes. All of these lamps have mercury in them. When the current is turned on some of the mercury vaporizes. That's what produces the ultra-violet rays."

"Isn't it possible to produce ultra-violet rays with a bulb that doesn't contain mercury?" Pryor asked.

"Not that I know of," Wilson replied.

"Perhaps I am wrong," said the visitor, "But I have heard that there is a new type of lamp which was introduced recently for use in the poultry industry. It operates in an ordinary light socket and contains no mercury."

"Oh, you mean the CX lamps," Woodbury volunteered. "You've heard of them, haven't you Doctor?"

"Only superficially," Wilson admitted. "My impression is that those new lamps are still in the experimental stage. Do you know anything about them?"

"Not much. But I know that they will produce ultra-violet rays."

"One more question, if you please, Professor Wilson," Pryor interposed. "Do you know whether or not the experiment you just conducted would work with a larger animal—say one as large as a sheep?"

His answer was startling. "Most assuredly. I have tried it myself on half a dozen large animals. Some of them were considerably larger than sheep."

"And the results?" Pryor prompted.

"The results? Well, I would call them extremely gratifying," and for the first time since Pryor had met him, Professor Wilson smiled. But there was no mirth

in that smile. It reminded Pryor of the horrible grin on the face of a man-eating shark. It made him shudder.

With hasty expressions of thanks to both the men of science Pryor took his departure. He was glad to get outdoors where he could fill his lungs with pure, untainted air.

CHAPTER XII

More Suspects

PRYOR spent the next few days visiting the chemical laboratories of universities in different parts of Southern California, and in interviewing the other three men on his list.

The first of these was Theron Ward, Ph.D. He was short and slender. Pryor guessed his weight to be not more than one hundred and twenty pounds. Except for a narrow fringe of dark-brown hair, his head was bald. Large, bulging eyes, dull grey in color, seemed to be always staring as if in perpetual surprise. This effect was accentuated by a pair of enormous spectacles with concave lenses.

Pryor opened the conversation by asking Professor Ward if he was familiar with Benjamin Moore's experiments in producing formaldehyde from carbon dioxide and water exposed to ultra-violet light.

"Why, yes," Ward told him. "It happens that I have been doing some work along that same line myself. But I have to confess that my experiments thus far have not been very satisfactory. I have not been able to produce formaldehyde without the aid of a catalyst, such as ferric chloride or ferric oxide."

"Do you know of any other examples of poisonous substances being produced by exposing non-poisonous compounds to sunlight or ultra-violet rays?" Pryor asked him.

"Offhand I can't think of any such example," the professor replied. "Why?"

"I thought possibly you might be familiar with the work which Doctor Wilson has been doing with haematoporphyrin injected into the blood of animals."

Pryor thought he saw a startled look come into those large, bulging eyes, but of this he could not be certain. The answer came readily enough. "I'm sorry, but that is out of my line. I know nothing whatever about Doctor Wilson's work."

"Doubtless you have used this substance haematoporphyrin for other purposes?" Pryor suggested.

"No, I have not. To tell you the truth, I know absolutely nothing about it. Organic chemistry is a very broad subject, you know. You can hardly expect one man to be familiar with every individual phase of it."

"Of course not." Pryor agreed. "From what you say, I assume that there isn't any haemato-porphyrin on the shelves of your laboratories."

"I'm certain that there is none of it here," Ward assured him. "Perhaps Doctor Wilson could furnish you with a small quantity of it if you wished to use it for experimental purposes."

"Thank you for the suggestion," said the business counsellor. "You have been very considerate. Perhaps you will be willing to answer one more question."

"Why, certainly. I shall be glad to answer your questions—if I can."

Pryor's question was: "Do you know of a kind of a lamp which can be operated in an ordinary light socket and which will deliver ultra-violet rays?"

"Why, yes. There is such a light. It is made by the American Electric Company, I believe. The bulb is made of quartz glass."

"Do you know whether a lamp of that sort actually does produce ultra-violet rays?"

"Undoubtedly it does. Of course the rays from such a source will not be as powerful as those generated by the regular ultra-violet ray tubes, but I am sure that some ultra-violet light can be produced with a lamp such as you describe."

"Do you happen to know the trade name of those special lamps."

"No. I do not. You can probably find out by phoning to the local office of the American Electric Company."

"Thank you, Professor. I appreciate your courtesy very much."

"You are quite welcome. Sorry I couldn't be of more help to you."

"You have helped me more than you realize," was Pryor's significant comment. "And, by the way, Professor, I suppose you were away during the holidays."

Once more those bulging eyes seemed to protrude a trifle further than usual. For an instant Ward hesitated, then he answered calmly, "Oh, yes. My daughter lives in Oakland. She has two children. I always spend Christmas and New Year's day with her."

The next man whom Pryor interviewed was John Holt, professor of chemistry at Cabrillo University. Except for the color of his eyes and his general build, he did not resemble very closely the mental picture which Pryor had constructed from the descriptions of Jackson. For one thing, he was much younger, forty-three, to be exact. His height was hardly more than five feet five inches and his weight approximately one hundred and thirty-five pounds. The corners of his mouth drooped constantly. He was anything but cordial.

With considerable difficulty Pryor managed to worm the following information out of him. He had heard of haemato-porphyrin and the experiments of Professor Wilson; but a few adroit questions from Pryor revealed the fact that his knowledge of this work was very limited. Asked if he had any haemato-porphyrin in his laboratory or if he had ever used any of it himself, he answered both questions in the negative. With the one hundred and ten volt ultra-violet lamps, however, he seemed to be familiar, although he expressed doubt if they actually produced ultra-violet rays potent enough to produce effects comparable to sunlight.

The last interview was with a department head in one of California's largest institutions of learning. His name was Howard Winthrop. Affable, courteous and accommodating, he willingly answered Pryor's questions. In his laboratory there was a small supply of haematoporphyrin, Winthrop was well posted on the experiments of Professor Wilson and had himself duplicated some of them with small animals. He knew about the ultra-violet ray lamps for use in the poultry industry and showed Pryor one of them which he had used for experimental purposes. When Pryor asked him where he had spent the holidays he declared that, with the exception of Christmas Day, New Year's Day and Sundays, he had spent the entire vacation working in his laboratory on the University campus.

On the morning following his interview with Winthrop, the Master of Mystery went to his office and barked into his dictaphone a detailed report of his investigations. While his secretary was transcribing his dictation, he wrote out in copper-plate long hand a brief summary of the salient information obtained from each of the suspects.

For nearly an hour he sat studying this résumé. During most of this time his eyes seemed fixed on the paper, but in reality their gaze was directed inwardly into that marvelous mind which was weighing, measuring and analyzing every impression and fact.

Suddenly his fist came down on the table and he yelled, "Eureka! I have it!"

His secretary, who had been trained not to disturb him while he was thinking out a problem, must have heard the exclamation, for she opened the door and said softly, "Here is your report of the Strickland case, Mr. Pryor."

The Master of Mystery took the typewritten pages, gathered up his own penciled notes and, with a mumbled, "Thanks, Miss Walker. I won't be back today," bolted out of the office.

He walked briskly to detective headquarters and after a few minutes' wait was ushered into Spangler's office.

"I thought you might be interested to know that I have solved the Strickland murder case," he announced.

"Is that so?" the detective smiled. "I was hoping you'd flop this time, so I wouldn't have to bother making an arrest."

"That may not be necessary, anyway," Pryor told him.

"What do you mean?"

"I mean that under the circumstances you can hardly expect me to reveal the name of the murderer to you unless I think he deserves to be punished."

"Fair enough. But suppose I agree not to make the arrest without your O. K.? If I promise you that, will you tell me who did it?"

Pryor grinned. "Tell you what I'll do, Lieutenant—I'll give you the same chance to solve this mystery that I had myself, only I'll save you all the work of gathering evidence. Here is a typewritten report giving a complete account of my investigations. If you wish, I shall be glad to leave it with you."

"I'll look at it right now," Spangler declared. "And while I'm giving it the once over, perhaps you would like to read the letters and wires I have received. I was saving them until they all came in. Even if you know who did it, you may find these messages interesting."

"Undoubtedly," Pryor agreed. "Perhaps they will verify my judgment."

Only one of the wires contained any significant information. Signed by a police official of Dallas, Texas, it read as follows:

"MEN WHO KNEW MENDEZ HERE SAY HE HAD FRIEND NAMED ANDREW JACKSON WHO DRANK WITH HIM OFTEN STOP JACKSON WAS ABOUT FORTY FIVE YEARS OLD MEDIUM SIZED ATHLETIC BUILD EYES BLUE SANDY HAIR SMALL MOUSTACHE STOP CORONER SAYS DEATH MIGHT HAVE BEEN CAUSED BY SOMETHING BESIDES SUNSTROKE.

BURKE"

The message from Council Bluffs, Iowa, was in the form of an air mail letter:

"Dear Lieutenant Spangler" (it said):

"In reply to your inquiry in regards to Ruth Whipple I am sending you the following information:

"Ruth Whipple's real name is Ruth Holzberg. She was born in Des Moines in 1912. Her mother's maiden name was Mary Slocum. She was only seventeen when she married Emil Holzburg, who was then attending the State University. They kept their marriage secret until Ruth was born, after which Mary's parents had the marriage annulled. Five years later, Mary Holzburg met Samuel Whipple. They were married and moved to Council Bluffs. For obvious reasons, Ruth took her stepfather's name and only a few intimate friends knew her real name. Whipple always was kind to Ruth, treating her like his own child. Ruth's mother died in 1928. Whipple and his stepdaughter went to California merely for a vacation. So far as we have been able to ascertain they have no close friends or relatives in California.

"We have not been able to trace Holzberg since he graduated from the University. University authorities say he was an excellent student and that he did especially fine work in chemistry.

"If we can be of any further assistance to you in this matter, please call on us.

Yours truly,
William Anderson"

PRYOR waited until Spangler had finished reading the report, then he said, "What do you make of it?"

"It looks like you are on the right track," the detective admitted. "But I wouldn't take a chance on arresting any one of those men on the strength of the flimsy evidence you have collected so far."

"Not even after reading this letter?" Pryor pointed to the message from Council Bluffs.

"I couldn't find anything in that letter that would help solve the problem," said Spangler. "Did you get anything out of it?"

"Most assuredly. Mr. Anderson's letter contains two very important links in the chain which binds our murderer to his crimes. I'll have to admit that, before I read this letter I was a bit uncertain, but now I am positive that my first guess was correct."

"You're still talking in riddles to me," the detective confessed.

"Perhaps this will help you to visualize our problem," Pryor remarked as he handed Spangler the sheet of paper on which he had epitomized the results of his interviews with the five suspected men. This is what the detective read:

STRICKLAND MURDER CASE
LIST OF SUSPECTS

William E. Woodbury

Age 38. Height 5 ft. 7 in. Weight about 150 lbs. Eyes dark blue. Hair abundant, light brown. Complexion fair. Skin unusually clear. Looks younger than he is. Disposition: good natured, kind hearted, sympathetic. Knows about haemato-porphyrin because of work with his department head, Professor Wilson. Knows about CX ultra-violet ray lamps. Was out of town on vacation during week Strickland died.

This period corresponds to time Jackson was employed as a substitute butler.

Hermann Wilson

Age 51. Height 5 ft. 6 in. Eyes blue. Hair thick sandy colored. Disposition: Unattractive, blunt, ruthless. Knows more about H-P than any other scientist in the west. Has performed experiments on mice and admits that he has been equally successful with larger animals. Knows about ordinary ultra-violet ray lamps but claims he never heard of a U. V. R. light globe that will operate on an ordinary 110 volt house circuit. Has been on leave of absence from his university duties for several months (Sabbatical year) but has made intermittent visits to his laboratory where a supply of H-P is kept.

Theron Ward

Age about 55. Height 5 ft. 5½ in. Weight 120 lbs. Bald except for fringe of dark brown hair. Eyes, large, bulging, dull grey, near-sighted. Wears concave spectacles. Disposition, accommodating, with a suggestion of "inferiority complex." Has performed experiments similar to those of Benjamin Moore (producing formaldehyde from inorganic substances), but claims he has never heard of haemato-porphyrin. Says he knows nothing about Wilson's experiments on animals. Familiar with the violet ray lamp that can be used in ordinary light socket. Claims he spent Christmas and New Year's Day with his daughter in Oakland, but does not say he was with her during the entire vacation period.

John Holt

Age 43. Height 5 ft. 5 in. Weight about 135 lbs. Eyes blue. Disposition: gloomy, pessimistic, unsociable. Has no H-P in his laboratory. Does not know much about Wilson's experiments. Knows about the ultra-violet ray lamp for use in 110 volt circuits. Was out of town during week before New Year's Day.

Howard Winthrop

Age 46. Height 5 ft. 6 in. Eyes blue. Disposition ordinary. Knows about Wilson's experiments. Has some H-P in his laboratories. Has heard about U. V. R. lamps for use in poultry culture (110 volt circuits) but knows very little about them. Claims he was working in the University laboratories all during the vacation period, except on Sundays, Christmas Day and New Year's Day.

(For purposes of comparison, the following is also included):

Albert Jackson

Substitute butler who was on duty for two weeks previous to the day Strickland was found dead. (December 20 to January 2.) Age, according to Hathaway's estimate, 55. According to Miss Strickland's estimate, 50. Height about 5 ft. 6 inches. Build stocky. Weight about 140 pounds. Stoop shouldered Eyes pale blue. Wears no glasses. Hair light brown, streaked with grey. Fairly thick for a man of his years. Disposition: Kind, considerate, thoughtful, courteous. Speaks like a well educated man.

CHAPTER XIII

Miss Strickland Again

SPANGLER studied this list for a few minutes before he remarked, "Well, if I were asked to pick the one most likely to be the murderer, I'd have to put my finger on Wilson. He seems to be the one that knows the most about that tomato-porcelain stuff or whatever you call it, and with a whole year's vacation he had plenty of chance to get the other five too."

"The other five died during the summer vacation," Pryor reminded him. "All of these college men were at liberty then."

"That's right. Even at that, the suspicion seems to point at Wilson. But if you believe what you read in the detective stories, that means that Wilson couldn't possibly have done it. The murderer has to be the one that is least suspected, like this fellow Winthrop."

"We can safely eliminate Winthrop from our list of suspects," Pryor told him. "I checked his assertion that he spent the greater part of his Christmas vacation doing some research work in the University laboratories and I found that it was true. He couldn't possibly have been the man who did Strickland to death,"

"Well, that helps narrow it down," said Spangler cheerfully. "And for that matter, why not eliminate two more?"

"Which ones do you mean?"

"Woodbury and Ward. Neither of them comes anywhere near the description of Jackson. I suppose you still think that the man who did it is the same man who called himself Jackson."

"Of that I am positive," Pryor assured him.

"O. K. Then that leaves only Wilson and Holt. Of course Ward could have covered his bald head with a wig. But my guess would be Wilson. After all this isn't a story book, even if it does sound like a fairy tale. In real life the guilty person is usually the one that you have reason to suspect most—not the one that is least suspected."

"True enough," Pryor conceded, "Providing the suspicions are well founded."

Spangler waited patiently for Pryor to divulge the name of the man he thought was guilty, but all the Master of Mystery said was, "Do you mind if I use your phone?"

"Help yourself," said the detective.

Pryor dialed a number. When the call was answered he said, "This is Mr. Pryor. I would like to speak to Miss Strickland, if you please."

Soon a soft melodious voice said, "Good afternoon, Mr. Pryor."

"Good afternoon, Miss Strickland. Are you going to be home for an hour or so?"

"Why, yes."

"May I see you for a few minutes if I come to your home now?"

"Why, yes, of course. I shall be glad to have you come out any time, Mr. Pryor."

She was more beautiful than ever when she greeted him in her living room half an hour later.

With characteristic bluntness, Pryor plunged into the mission which had brought him there.

"I came to tell you that I have solved the mystery surrounding your father's death."

Pained surprise flashed across her lovely face.

"You mean——" she said in a trembling voice. "You mean that——"

"Yes," said Pryor without waiting for her to finish the sentence. "Your father was murdered. And I have found his murderer."

He was totally unprepared for the effect which this announcement had on the girl. With a low moan, she sank down on the davenport, buried her face in her bent arm and began to sob convulsively.

Before this unexpected storm of grief, Pryor was as helpless as if he were paralyzed. He wanted to comfort and console her but he didn't know what to say—he didn't know what to do. So he said nothing and did nothing. Presently she raised her head, dabbed at her face with a flimsy, ridiculously inadequate handkerchief and said, "Please forgive me, Mr. Pryor. This is such a shock that I—I—well I just lost control of myself. I'm sorry."

Pryor finally found his voice. "But my dear Miss Strickland, why should you weep at the thought of apprehending the man who was responsible for your father's death?"

"Don't you understand? To mother and me this means nothing but a lot of unwelcome publicity. For over a year we have been trying to live down the scandal which was laid at father's door at the time when the Whipple girl was ruined. The public had just about forgotten us when father died. Now you say he was murdered. That means more publicity. It means raking over all the detestable filth that we thought was buried. Can't you see why mother and I would much prefer to have the world think that father died a natural death?"

"I understand now," said Pryor in a tone of regret. "How blind I have been! I pride myself on my so-called analytical mind and here I have completely failed in my analysis of your attitude. But you don't need to fear, Miss Strickland. The police know very little about this and I am under no obligation to inform them. After all, I was first asked to help your father and now it looks as if the only way I can help him and his dear ones is to remain silent."

She looked up at him with the light of gratitude gleaming through the tears in her eyes as she said: "I can't tell you how much I appreciate your kindness, Mr. Pryor. I realize what a sacrifice this means to you. You are known as a man who always completes successfully every task he undertakes. It will take a lot of sacrifice on your part to refrain from telling Lieutenant Spangler about your success in this case."

"It may not be necessary to make that sacrifice," Pryor smiled. "That doesn't trouble me nearly as much as another consideration does."

"What do you mean?"

"I mean the attitude of the murderer himself. No doubt he felt that he had ample justification for committing those six murders. You see he was Ruth's real father. Whipple was just her stepfather. But, regardless of how he felt, he had no right to assume such arbitrary and despotic powers. He virtually appointed himself to be the judge and jury and executioner all rolled into one. It would be dangerous to permit such a man to escape without some punishment."

"But how are you going to punish him without having him indicted?"

"I think I know how to do it," Pryor told her. "May I use your phone?"

Talking softly into the instrument, Pryor first made sure that he had the right person on the line. Then, in a loud, deliberate voice he said, "Your real name is Emil Holzburg, isn't it?"

"Who are you?" the man at the other end demanded.

Without answering the question, Pryor went grimly on:

"At various times you have also used the name Jackson, haven't you? In Texas it was Andrew Jackson; in Hollywood it was Albert Jackson. That is true, isn't it?"

"Who are you?" This time the question came in a frightened whisper that was barely audible.

"Never mind who I am. My name has nothing to do with the case. What does matter is that I know who you are and what you have done. I know that you murdered James Strickland and the five other men who were accused of causing the ruin of your daughter Ruth. I also know that you used a chemical called haematoporphyrin in committing these six murders."

"What are you going to do?" The voice was a trifle louder but it still trembled with fear.

"Nothing!' was Pryor's astonishing response. "It happens that I am a friend of James Strickland's daughter. Turning you over to the police would mean distressing publicity. This Miss Strickland and her mother wish to avoid. For that reason you will probably be safe from the strictly legal consequences of your crimes."

"For that I am grateful to——" the man started to say, but Pryor interrupted him with:

"That does not mean that you are to escape the consequences of your crimes."

"What?—How?—Why?——" the voice stammered, and Pryor went inexorably on:

"You are a man of superior intellect, Holzburg. You certainly must realize that, even if you thought you had ample justification for avenging your daughter, you had no right to take the law into your own hands. Having done so it devolves upon you to carry out the remainder of the law's work."

"What do you mean?"

"You have appointed yourself judge, jury and executioner for James Strickland and five other men. It is only logical that you should also assume the responsibility for punishing the man who murdered them."

"You mean?"

"Now that you know your crimes have been discovered, you must be guided entirely by your own conscience. Good-bye!"

CHAPTER XIV

Gathering the Loose Threads

FOR several days Pryor scanned the columns of the Los Angeles newspapers with the utmost care. Then one morning he found the story he was looking for. He tore out the article and slipped it beneath the cover of a notebook which he placed in his pocket.

Forty minutes later he was in Spangler's office.

"Oh, hello, Mr. Pryor," the detective greeted him. "I'm glad you came to see me. That Strickland case is

getting my goat. I can't do anything else for thinking about it. I even lay awake nights trying to figure out how you could be so all fired sure about the one you think murdered Strickland."

"But you know now, of course?"

"Darned if I do. After all my deliberating, I still think that Wilson is the man."

Pryor smiled: "It won't be necessary for you to trouble your mind about it any more, lieutenant. The case is all settled—settled in a way that seems to be best for everybody concerned. You won't need to bother about arresting anybody. Miss Strickland and her mother will be spared the ordeal of unwelcome publicity. I have completed my task successfully and the murderer has received a just punishment. Did you see this in today's *Times?*" And he handed the newspaper clipping to Spangler.

The detective read it and then exclaimed: "Well, I'll be—— I don't know what. So the murderer was that nice chap Woodbury!"

"Yes, Woodbury, Jackson and Holzburg are one and the same person."

"Is he the one you suspected?"

"He was the one I knew did it."

"Whatever made you suspect him?"

"It was largely a matter of mathematics."

"What do you mean by that?"

"Woodbury was the only one of the five who had all the knowledge and all the opportunities necessary for the commission of Strickland's murder."

"I don't get you yet."

"Then let me elucidate: Wilson knew all about haemato-porphyrin, but he said he knew nothing about the CX ultra-violet ray lamp, and I saw no reason for doubting his assertion. Ward knew about the CX lamps but did not have a supply of haemato-porphyrin readily available, and was not familiar with the action of this substance on animals. Holt knew about the violet ray lamps for ordinary lighting circuits but he knew very little about haemato-porphyrin. Winthrop possessed both the knowledge and the materials required but he lacked the opportunity, because he was working in his laboratories during the Christmas vacation. That leaves Woodbury, who knew all about the one hundred and ten volt ultra-violet ray lamp. In fact he was the only one of the five who knew the trade name 'CX'."

"I see now how you happened to make such a clever guess, but after all, it was nothing more than a guess, now was it?"

"Call it a guess if you wish. Did you ever work out a jigsaw puzzle of a famous person's portrait?"

"I guess I did waste my time that way when I was a kid," Spangler replied. "What's that got to do with it?"

"Only this. When you work out a puzzle like that it sometimes takes only a few pieces to identify the person represented. Even though the picture is only one-tenth complete you can often tell positively what the final result will be. After that, each piece you add merely serves to corroborate what you already know. Do you get the analogy now?"

"In a way I do."

"Very well, then. Suppose I admit that my original judgment was nothing but a guess. It required only the addition of two more pieces to my jigsaw puzzle to make that guess a certainty. I obtained those two pieces from the air mail letter which our friend Mr. Anderson of Council Bluffs supplied."

"You've still got me guessing," Spangler admitted. "What did you get out of that letter?"

"Two very important details, namely, our quarry's name and his approximate age. The name of Ruth's father was Holzburg. Don't you get the significance of that? He must have graduated from college just about the time of the World War. You could hardly blame him for wanting to change such a Teutonic name as Holzburg. All he did was to translate it into English: 'Holz,' you know, is the German for 'wood'."

"And what about his age?"

"That was in the letter, too. He was married while he was a college student. The girl he married was seventeen at the time. He was probably not more than nineteen. Ruth was born a year later. She was seventeen when she died about a year ago. Add it up and what do you get? Thirty-eight. Exactly the age of Woodbury and several years younger than any of the others."

"But I thought you said that Jackson and the man who committed the murders were the same person."

"I still think so."

"But Jackson was a lot older than thirty-eight, according to the descriptions we had of him. Also your report says that Woodbury was five feet seven inches tall and Jackson wasn't over five feet six."

"You will also recall that he was stoop shouldered. That would easily account for the missing inch. Woodbury naturally took the precaution of disguising himself. It is not very difficult for a man of his age to make himself look several years older."

"Right you are," Spangler conceded. "But what do you suppose this newspaper article means? It almost looks as if Woodbury committed suicide. What do you think about it?"

With a grim, inscrutable smile, Pryor replied, "That hypothesis is as good as any. However, I, for my part, prefer to accept the newspaper's account of the tragedy."

"You mean——"

Pryor picked up the clipping and read:

"SAVANT IS MARTYR TO SCIENCE

"William Emil Woodbury, professor of chemistry at Santa Ana University, was found dead in his laboratory yesterday afternoon. Circumstances surrounding his death indicate that he met with an accident while experimenting with an apparatus for producing ultra-violet rays. He had evidently been testing the effect of this light on his own person for the part of his body above his waist was nude when he was found.

"According to Professor Hermann Wilson, head of the department of chemistry, Professor Woodbury has been performing a series of experiments with a rare substance, which, when injected into the blood of an animal makes it extremely sensitive to ultra-violet light. It is thought that some of this chemical might have been absorbed by Woodbury's system and that the action of the ultra-violet ray light produced an effort similar to that of sunstroke."

THE END.

The Lost Machine

By John B. Harris

PSYCHOLOGISTS—and others—are greatly concerned about the effects—possible and assured—of machines and the machine age, on human life and endeavor. But who has ever stopped to consider the possible reactions—or thoughts—of the advanced machine of the future? That, apparently, was left to our brothers across the sea, and one of them at least has done an excellent bit of work on its presentation. Here is a story that is different indeed, and thoroughly English in its atmosphere!

"FATHER, here, quickly," Joan's voice called down the long corridor.

Dr. Falkner, who was writing, checked himself in mid-sentence at the sound of his daughter's urgency.

"Father," she called again.

"Coming," he shouted as he hastily levered himself out of his easy chair.

"This way," he added for the benefit of his two companions.

Joan was standing at the open door of the laboratory.

"It's gone," she said.

"What do you mean?" he inquired brusquely as he brushed past her into the room. "Run away?"

"No, not that," Joan's dark curls fell forward as her head shook. "Look there."

He followed the line of her pointing finger to the corner of the room.

A pool of liquid metal was seeping into a widening circle. In the middle there rose an elongated, silvery mound which seemed to melt and run even as he looked. Speechlessly he watched the central mass flow out into the surrounding fluid, pushing the edges gradually further and further across the floor.

Then the mound was gone—nothing lay before him but a shapeless spread of glittering silver, like a miniature lake of mercury.

For some moments the doctor seemed unable to speak. At length he recovered himself sufficiently to ask hoarsely:

"That—that was it?"

Joan nodded.

"It was recognizable when I first saw it," she said.

Angrily he turned upon her.

"How did it happen? Who did it?" he demanded.

"I don't know," the girl answered, her voice trembling a little as she spoke. "As soon as I got back to the house I came in here just to see that it was all right. It wasn't in the usual corner and as I looked around I caught sight of it over here—melting. I shouted for you as soon as I realized what was happening."

One of the doctor's companions stepped from the background.

"This," he inquired, "is—was the machine you were telling us about?"

There was a touch of a sneer in his voice as he put the question and indicated the quivering liquid with the toe of one shoe.

"Yes," the doctor admitted slowly. "That was it."

"And, therefore, you can offer no proof of the talk you were handing out to us?" added the other man.

"We've got film records," Joan began tentatively. "They're pretty good. . . ."

The second man brushed her words aside.

"Oh, yes?" he asked sarcastically. "I've seen pictures of New York as it's going to look in a couple of hundred years, but that don't mean that anyone went there to take 'em. There's a whole lot of things that can be done with movies," he insinuated.

Joan flushed, but kept silent. The doctor paid no attention. His brief flash of anger had subsided to leave him gazing sadly at the remains before him.

"Who can have done it?" he repeated half to himself.

His daughter hesitated for a moment before she suggested:

"I think—I think it must have done it itself."

"An accident?—I wonder," murmured the doctor.

"No—no, not quite that," she amended. "I think it was—lonely," the last word came out with a defiant rush.

There was a pause.

"Well, can you beat that?" said one of the others at last. "Lonely—a lonely machine: that's a good one. And I suppose you're trying to feed us that it committed suicide, miss? Well, it wouldn't surprise me any; nothing would, after the story your father gave us."

He turned on his heel and added to his companion:

"Come on. I guess someone'll be turnin' this place into a sanitarium soon—we'd better not be here when it happens."

With a laugh the two went out leaving father and daughter to stare helplessly at the residue of a vanished machine.

Illustrated by MOREY

"A second later there came a stunning explosion. . . . The cause of the disaster must always remain a mystery. . . . I only know that when I looked up the vessel was nowhere to be seen . . . only a rain of metal parts dropping to earth all about me."

At length Joan sighed and moved away. As she raised her eyes, she became aware of a pile of paper on the corner of a bench. She did not remember how it came to be there and crossed with idle curiosity to examine it.

The doctor was aroused from his reverie by the note of excitement in her voice.

"Look here, father," she called sharply.

"What's that?" he asked, catching sight of the wad of sheets in her hand.

As he came closer he could see that the top one was covered with strange characters.

"What on earth . . . ?" he began.

Joan's voice was curt with his stupidity.

"Don't you see?" she cried. "It's written this for us."

The doctor brightened for a moment; then the expression of gloom returned to his face.

"But how can we . . . ?"

"The thing wasn't a fool—it must have learned enough of our language to put a key in somewhere to all this weird stuff, even if it couldn't write the whole thing in English. Look, this might be it, it looks even queerer than the rest."

Several weeks of hard work followed for Joan in her efforts to decipher the curious document, but she held on with painstaking labor until she was able to lay the complete text before her father. That evening he picked up the pile of typed sheets and read steadily, without interruption, to the end. . . .

Arrival

AS we slowed to the end of our journey, Banuff began to show signs of excitement.

"Look," he called to me. "The third planet, at last."

I crossed to stand beside him and together we gazed down upon a stranger scene than any other fourth planet eyes have ever seen.

Though we were still high above the surface, there was plenty to cause us astonishment.

In place of our own homely red vegetation, we beheld a brilliant green. The whole land seemed to be covered with it. Anywhere and everywhere it clung and thrived as though it needed no water. On the fourth planet, which the third planet men call Mars, the vegetation grows only in or around the canals, but here we could not even see any canals. The only sign of irrigation was one bright streak of water in the distance, twisting senselessly over the countryside—a symbolic warning of the incredible world we had reached.

Here and there our attention was attracted by outcroppings of various strange rocks amid all this green. Great masses of stone which sent up plumes of black smoke.

"The internal fires must be very near the surface of this world," Banuff said, looking doubtfully at the rising vapors.

"See in how many places the smoke breaks out. I should doubt whether it has been possible for animal life to evolve on such a planet. It is possible yet that the ground may be too hot for us—or rather for me."

There was a regret in his tone. The manner in which he voiced the last sentence stirred my sympathy. There are so many disadvantages in human construction which do not occur in us machines, and I knew that he was eager to obtain first hand knowledge of the third planet.

For a long time we gazed in silent speculation at this queer, green world. At last Banuff broke the silence.

"I think we'll risk a landing there, Zat," he said, indicating a smooth, open space.

"You don't think it might be liquid," I suggested, "it looks curiously level."

"No," he replied, "I fancy it's a kind of close vegetation. Anyway, we can risk it."

A touch on the lever sent the machine sinking rapidly towards a green rectangle, so regular as to suggest the work of sentient creatures. On one of its sides lay a large stone outcrop, riddled with holes and smoking from the top like the rest, while on the other three sides, thick vegetation rose high and swayed in the wind.

"An atmosphere which can cause such commotion must be very dense," commented Banuff.

"That rock is peculiarly regular," I said, "and the smoking points are evenly spaced. Do you suppose . . .?

The slight jar of our landing interrupted me.

"Get ready, Zat," Banuff ordered.

I was ready. I opened the inner door and stepped into the air-lock. Banuff would have to remain inside until I could find out whether it was possible for him to adjust. Men may have more power of originality than we, and they do possess a greater degree of adaptability than any other form of life, but their limitations are, nevertheless, severe. It might require a deal of ponderous apparatus to enable Banuff to withstand the conditions, but for me, a machine, adaptation was simple.

The density of the atmosphere made no difference save slightly to slow my movements. The temperature, within very wide limits, had no effect upon me.

"The gravity will be stronger," Banuff had warned me, "this is a much larger planet than ours."

It had been easy to prepare for that by the addition of a fourth pair of legs.

Now, as I walked out of the air-lock, I was glad of them; the pull of the planet was immense.

After a moment or so of minor adjustment, I passed around our machine to the window where Banuff stood, and held up the instruments for him to see. As he read the air pressure meter, the gravity indicator and the gas proportion scale, he shook his head. He might slowly adapt himself partway to the conditions, but an immediate venture was out of the question.

It had been agreed between us that in such an event I should perform the exploration and specimen collecting while he examined the neighborhood from the machine.

He waved his arm as a signal and, in response, I set off at a good pace for the surrounding green and brown growths. I looked back as I reached them to see our silvery craft floating slowly up into the air.

A second later, there came a stunning explosion; a wave of sound so strong in this thick atmosphere that it almost shattered my receiving diaphragm.

The cause of the disaster must always remain a mystery: I only know that when I looked up, the vessel was nowhere to be seen—only a rain of metal parts dropping to earth all about me.

Cries of alarm came from the large stone outcrop and simultaneously human figures appeared at the lowest of its many openings.

They began to run towards the wreck, but my speed was far greater than theirs. They can have made but half the distance while I completed it. As I flashed

across, I could see them falter and stop with ludicrous expressions of dismay on their faces.

"Lord, did you see that?" cried one of them.

"What the devil was it?" called another.

"Looked like a coffin on legs," somebody said. "Moving some, too."

Flight

BANUFF lay in a ring of scattered débris.

Gently I raised him on my fore-rods. A very little examination showed that it was useless to attempt any assistance: he was too badly broken. He managed to smile faintly at me and then slid into unconsciousness.

I was sorry. Though Banuff was not of my own kind, yet he was of my own world and on the long trip I had grown to know him well. These humans are so fragile. Some little thing here or there breaks—they stop working and then, in a short time, they are decomposing. Had he been a machine, like myself, I could have mended him, replaced the broken parts and made him as good as new, but with these animal structures one is almost helpless.

I became aware, while I gazed at him, that the crowd of men and women had drawn closer and I began to suffer for the first time from what has been my most severe disability on the third planet—I could not communicate with them.

Their thoughts were understandable, for my sensitive plate was tuned to receive human mental waves, but I could not make myself understood. My language was unintelligible to them, and their minds, either from lack of development or some other cause, were unreceptive of my thought-radiations.

As they approached, huddled into a group, I made an astonishing discovery—they were afraid of me.

Men afraid of a machine.

It was incomprehensible. Why should they be afraid? Surely man and machine are natural complements: they assist one another. For a moment I thought I must have misread their minds—it was possible that thoughts registered differently on this planet, but it was a possibility I soon dismissed.

There were only two reasons for this apprehension. The one, that they had never seen a machine or, the other, that third planet machines had pursued a line of development inimical to them.

I turned to show Banuff lying inert on my fore-rods. Then, slowly, so as not to alarm them, I approached. I laid him down softly on the ground near by and retired a short distance. Experience has taught me that men like their own broken forms to be dealt with by their own kind. Some stepped forward to examine him, the rest held their ground, their eyes fixed upon me.

Banuff's dark coloring appeared to excite them not a little. Their own skins were pallid from lack of ultra-violet rays in their dense atmosphere.

"Dead?" asked one.

"Quite dead," another one nodded. "Curious looking fellow," he continued. "Can't place him ethnologically at all. Just look at the frontal formation of the skull—very odd. And the size of his ears, too, huge: the whole head is abnormally large."

"Never mind him now," one of the group broke in, "he'll keep. That's the thing that puzzles me," he went on, looking in my direction. "What the devil do you suppose it is?"

They all turned wondering faces towards me. I stood motionless and waited while they summed me up.

"About six feet long," ran the thoughts of one of them. "Two feet broad and two deep. White metal, might be—(his thought conveyed nothing to me). Four legs to a side, fixed about halfway up—jointed rather like a crab's, so are the arm-like things in front: but all metal. Wonder what the array of instruments and lenses on this end are? Anyhow, whatever kind of power it uses, it seems to have run down now. . . ."

Hesitatingly he began to advance.

I tried a word of encouragement.

The whole group froze rigid.

"Did you hear that?" somebody whispered. "It—it spoke."

"Loud speaker," replied the one who had been making an inventory of me. Suddenly his expression brightened.

"I've got it," he cried. "Remote control—a telephony and television machine worked by remote control."

So these people did know something of machinery, after all. He was far wrong in his guess, but in my relief I took a step forward.

An explosion roared: something thudded on my body case and whirred away. I saw that one of the men was pointing a hollow rod at me and I knew that he was about to make another explosion.

The first had done no injury but another might crack one of my lenses.

I turned and made top speed for the high, green vegetation. Two or three more bursts roared behind, but nothing touched me. The weapon was very primitive and grossly inaccurate.

Disappointment

FOR a day and a night I continued on among the hard stemmed growths.

For the first time since my making, I was completely out of touch with human control, and my existence seemed meaningless. The humans have a curious force they call ambition. It drives them, and, through them, it drives us. This force which keeps them active, we lack. Perhaps, in time, we machines will acquire it. Something of the kind—self-preservation which is allied to it—must have made me leave the man with the explosive tube and taken me into the strange country. But it was not enough to give me an objective. I seemed to go on because—well, because my machinery was constructed to go on.

On the way I made some odd discoveries.

Every now and then my path would be crossed by a band of hard matter, serving no useful purpose which I could then understand. Once, too, I found two unending rods of iron fixed horizontally to the ground and stretching away into the distance on either side. At first I thought they might be a method of guarding the land beyond, but they presented no obstacle.

Also, I found that the frequent outcroppings of stone were not natural, but laboriously constructed. Obviously this primitive race, with insufficient caves to hold its growing numbers, had been driven to construct artificial caves. The puzzling smoke arose from their method of heating these dwellings with naked fire—so wasteful a

system of generating heat that no flame has been seen on the fourth planet,* save in an accident, for thousands of years.

It was during the second day that I saw my first machine on this planet.

It stood at the side of one of the hard strips of land which had caused me so much wonder. The glitter of light upon its bright parts caught my lenses as I came through the bushes. My delight knew no bounds—at last I had found a being of my own kind. In my excitement I gave a call to attract its attention.

There was a flurry of movement round the far side and a human figure raised its head to look at me.

I was able to tell that she was a woman despite the strange coverings that the third planet humans put upon themselves. She stared at me, her eyes widening in surprise while I could feel the shock in her mind. A spanner dropped from her hand and then, in a flash, she was into the machine, slamming the door behind her. There came a frantic whirring as she pressed a knob, but it produced no other result.

Slowly I continued to advance and as I came, the agitation in her mind increased. I had no wish to alarm her—it would have been more peaceful had her thought waves ceased to bombard me—but I was determined to know this machine.

As I drew clear of the bushes, I obtained a full view of the thing for the first time and disappointment hit me like a blow. *The thing had wheels.* Not just necessary parts of its internal arrangements, but wheels actually in contact with the ground. In a flash the explanation of all these hard streaks came to me. Unbelievable though it may seem, this thing could only follow a track specially built for it.

Later I found that this was more or less true of all third planet† land machines, but my first discouragement was painful. The primitive barbarity of the thing saddened me more than any discovery I had yet made.

Forlornly, and with little hope, I spoke to it.

There was no answer.

It stood there dumbly inert upon its foolish wheels as though it were a part of the ground itself.

Walking closer, I began to examine with growing disgust its crude internal arrangements. Incredibly, I found that its only means of propulsion was by a series of jerks from frequent explosions. Moreover, it was so ludicrously unorganized that both driving engine and brakes could be applied at the same time.

Sadly, as I gazed at the ponderous parts within, I began to feel that I was indeed alone. Until this encounter, my hope of discovering an intelligent machine had not really died. But now I knew that such a thing could not exist in the same world with this monster.

One of my fore-rods brushed against a part of it with a rasping sound and there came a startled cry of alarm from within. I looked up to the glass front where the woman's face peered affrightedly. Her mind was in such a state of confusion that it was difficult to know her wants clearly.

She hoped that I would go away—no, she wished the car would start and carry her away—she wondered whether I were an animal, whether I even really existed. In a jumble of emotions she was afraid and at the same time was angry with herself for being afraid. At last I managed to grasp that the machine was *unable* to run. I turned to find the trouble.

As I labored with the thing's horrible vitals, it became clear to me why men, such as I had met, showed fear of me. No wonder they feared machines when their own mechanisms were as inefficient and futile as this. What reliance or trust could they place in a machine so erratic—so helpless that it could not even temporarily repair itself? It was not under its own control and only partially under theirs. Third planet men's attitude became understandable—commendable—if all their machines were as uncertain as this.

The alarm in the woman's mind yielded to amazement as she leaned forward and watched me work. She seemed to think me unreal, a kind of hallucination:

"I must be dreaming," she told herself. "That thing can't really be mending my car for me. It's impossible; some kind of horrid nightmare. . . ."

There came a flash of panic at the thought of madness, but her mind soon rebalanced.

"I just don't understand it," she said firmly and then, as though that settled it, proceeded to wait with a growing calm.

At last I had finished. As I wiped the thing's coarse, but necessary oil from my fore-rods, I signalled her to push again on the black knob. The whirr this time was succeeded by a roar—never would I have believed that a machine could be so inefficient.

Through the pandemonium I received an impression of gratitude on my thought plate. Mingling traces of nervousness remained, but first stood gratitude.

Then she was gone. Down the hard strip I watched the disgusting machine dwindle away to a speck.

Then I turned back to the bushes and went slowly on my way. Sadly I thought of the far away, red fourth planet and knew that my fate was sealed. I could not build a means of return. I was lost—the only one of my kind upon this primitive world.

The Beasts

THEY came upon me as I crossed one of the smooth, green spaces so frequent on this world.

My thought-cells were puzzling over my condition. On the fourth planet I had felt interest or disinterest, inclination or the lack of it, but little more. Now I had discovered reactions in myself which, had they lain in a human being, I should have called emotions. I was, for instance, lonely: I wanted the company of my own kind. Moreover, I had begun to experience excitement or, more particularly, apathy.

An apathetic machine!

I was considering whether this state was a development from the instinct of self preservation, or whether it might not be due to the action of surrounding matter on my chemical cells, when I heard them coming.

First there was a drumming in my diaphragm, swelling gradually to a thunderous beat which shook the ground. Then I turned to see them charging down upon me.

Enormous beasts, extinct on my planet a million years, covered with hair and bearing spikes on their heads. Four-footed survivals of savagery battering across the land in unreasoning ferocity.

Only one course was possible since my escape was cut off by the windings of one of the imbecile-built canals. I folded my legs beneath me, crossed my fore-rods protectingly over my lenses and diaphragms, and waited.

*Mars. †The earth.

They slowed as they drew close. Suspiciously they came up to me and snuffled around. One of them gave a rap to my side with his spiked head, another pawed my case with a hoofed foot. I let them continue: they did not seem to offer any immediate danger. Such primitive animals, I thought, would be incapable of sustaining interest and soon move off elsewhere.

But they did not. Snuffling and rooting continued all around me. At last I determined to try an experimental waving of my fore-rods. The result was alarming. They plunged and milled around, made strange bellowing noises and stamped their hooves, but they did not go away. Neither did they attack, though they snorted and pawed the more energetically.

In the distance I heard a man's voice; his thought reached me faintly.

"What the 'ell's worritin' them dam cattle, Bill?" he called.

"Dunno," came the reply of another. "Let's go an' 'ave a look."

The beasts gave way at the approach of the man and I could hear some of them thudding slowly away, though I did not, as yet, care to risk uncovering my lenses.

The men's voices drew quite near.

"'Strewth," said the first, "'ow did that get 'ere, Bill?"

"Search me," answered the other. "Wasn't 'ere 'arf an hour ago—that I'll swear. What is it, any'ow?"

"'Anged if I know. 'Ere, give us a 'and and we'll turn it over."

At this moment it seemed wise to make a movement; my balancers might be slow in adjusting to an inverted position.

There was a gasp, then:

"Bill," came an agitated whisper, "did you see that rod there at the end? It moved, blessed if it didn't."

"Go on," scoffed the other. "'Ow could a thing like that move? You'll be sayin' next that it . . ."

I unfolded my legs and turned to face them.

For a moment both stood rooted, horror on their faces, then, with one accord, they turned and fled towards a group of their buildings in the distance. I followed them slowly: it seemed as good a direction as any other.

The buildings, not all of stone, were arranged so as almost to enclose a square. As the men disappeared through an opening in one side, I could hear their voices raised in warning and others demanding the reason for their excitement. I turned the corner in time to face a gaggling group of ten or twelve. Abruptly it broke as they ran to dark openings in search of safety. All, save one.

I halted and looked at this remaining one. He stared back, swaying a little as he stood, his eyes blinking in a vague uncertainty.

"What is it?" he exclaimed at last with a strange explosiveness, but as though talking to himself.

He was a sorely puzzled man. I found his mental processes difficult to follow. They were jumbled and erratic, hopping from this mind picture to that in uncontrolled jerks. But he was unafraid of me and I was glad of it. The first third planet man I had met who was not terror-ridden. Nevertheless, he seemed to doubt my reality.

"You fellowsh shee the shame s'I do?" he called deafeningly.

Muffled voices all around assured him that this was so.

"Thash all right, then," he observed with relief, and took a step forward.

I advanced slowly not to alarm him and we met in the middle of the yard. Laying a rough hand on my body-case he seemed to steady himself, then he patted me once or twice.

"Goo' ol' dog," he observed seriously. "Goo' ol' feller. Come 'long, then."

Looking over his shoulder to see that I followed and making strange whistling noises the while, he led the way to a building made of the hard, brown vegetable matter. At openings all about us scared faces watched our progress with incredulous amazement.

He opened the door and waved an uncertain hand in the direction of a pile of dried stalks which lay within.

"Goo' ol' dog," he repeated. "Lie down. There'sh a goo' dog."

In spite of the fact that I, a machine, was being mistaken for a primitive animal, I obeyed the suggestion—after all, he, at least, was not afraid.

He had a little difficulty with the door fastening as he went out.

The Circus

THERE followed one of those dark periods of quiet. The animal origin of human beings puts them under the disability of requiring frequent periods of recuperation and, since they cannot use the infra-red rays for sight, as we do, their rests take place at times when they are unable to see.

With the return of sunlight came a commotion outside the door. Expostulations were being levelled at one named Tom—he who had led me here the previous day.

"You ain't really goin' to let it out?" one voice was asking nervously.

"'Course I am. Why not?" Tom replied.

"The thing don't look right to me. I wouldn't touch it," said another.

"Scared, that's what you are," Tom suggested.

"P'raps I am—and p'raps you'd 've been scared last night if you 'adn't been so far gone."

"Well, it didn't do nothin' to me when I'd had a few," argued Tom, "so why should it now?"

His words were confident enough, but I could feel a trepidation in his mind.

"It's your own funeral," said the other. "Don't say afterwards that I didn't warn you."

I could hear the rest of them retire to what they considered a safe distance. Tom approached, making a show of courage with his words.

"Of course I'm goin' to let it out. What's more, I'm takin' it to a place I know of—it ought to be worth a bit."

"You'll never. . . ."

"Oh, won't I?"

He rattled open the door and addressed me in a fierce voice which masked a threatening panic.

"Come on," he ordered, "out of it."

He almost turned to run as he saw me rise, but managed to master the impulse with an effort. Outwardly calm, he led the way to one of those machines which use the hard tracks, opened a rear door and pointed inside.

"In you get," he said.

I doubt if ever a man was more relieved and surprised than he, when I did so.

With a grin of triumph he turned around, gave a mocking sweep with his cap to the rest, and climbed into the front seat.

My last sight as we roared away was of a crowd of open mouthed men.

The sun was high when we reached our destination. The limitations of the machine were such that we had been delayed more than once to replenish fuel and water before we stopped, at last, in front of large gates set in a wooden fence.

Over the top could be seen the upper parts of pieces of white cloth tightly stretched over poles and decorated by further pieces of colored cloth flapping in the wind. I had by this time given up the attempt to guess the purposes of third planet constructions, such incredible things managed to exist on this primitive world that it was simpler to wait and find out.

From behind the fence a rhythmical braying noise persisted, then there came the sound of a man's voice shouting above the din:

"What do you want—main entrance is round the other side."

"Where's the boss?" called Tom. "I got something for him."

The doors opened to allow us to enter.

"Over there in his office," said the man, jerking a thumb over his shoulder.

As we approached I could see that the third planet mania for wheels had led them even to mount the "office" thus.

Tom entered and reappeared shortly, accompanied by another man.

"There it is," he said, pointing to me, "and there ain't another like it nowhere. The only all-metal animal in the world—how'll that look on the posters?"

The other regarded me with no enthusiasm in his eyes and a deal of disbelief in his mind.

"That long box thing?" he inquired.

"Sure, 'that box thing.' Here, you," he added to me, "get out of it."

Both retreated a step as I advanced, the new man looked apprehensively at my fore-rods.

"You're sure it's safe?" he asked nervously.

"Safe?" said Tom. "'Course it's safe."

To prove it he came across and patted my case.

"I'm offering you the biggest noise in the show business. It's worth ten times what I'm asking for it—I tell you, there ain't another one in the world."

"Well, I ain't heard of another," admitted the showman grudgingly. "Where'd you get it?"

"Made it," said Tom blandly. "Spare time."

The man continued to regard me with little enthusiasm.

"Can it do anything?" he asked at last.

"Can it—?" began Tom indignantly. "Here you," he added, "fetch that lump of wood."

When I brought it, the other looked a trifle less doubtful.

"What's inside it?" he demanded.

"Secrets," said Tom shortly.

"Well, it's got to stop bein' a secret before I buy it. What sort of a fool do you take me for? Let's have a look at the thing's innards."

"No," said Tom, sending a nervous look sideways at me. "Either you take it or leave it."

"Ho, so that's your little game, is it? I'm to be the sucker who buys the thing and then finds the kid inside, workin' it. It wouldn't surprise me to find that the police'd like to know about this."

"There ain't no kid inside," denied Tom, "it's just —just secret works. That's what it is."

"I'll believe you when I see."

Tom waited a moment before he answered.

"All right," he said desperately, "we'll get the blasted lid off of it. . . . Here, hey, come back you."

The last was a shout to me but I gave it no notice. It was one thing to observe the curious ways of these humans, but it was quite a different matter to let them pry into my machinery. The clumsiness of such as Tom was capable of damaging my arrangements seriously.

"Stop it," bawled Tom, behind me.

A man in my path landed a futile blow on my body case as I swept him aside. Before me was the biggest of all the cloth covered erections.

"Here," I thought, "there will be plenty of room to hide."

I was wrong. Inside, in a circular space, stood a line of four footed animals. They were unlike the others I had met, in that they had no spikes on their heads and were of a much slenderer build, but they were just as primitive. All around, in tier upon tier of rings, sat hundreds of human beings.

Just a glimpse, I had, and then the animals saw me. They bolted in all directions and shouts of terror arose from the crowd.

I don't remember clearly what happened to me, but somewhere and somehow in the confusion which followed I found Tom in the act of starting his car. His first glance at me was one of pure alarm, then he seemed to think better of it.

"Get in," he snapped, "we've got to get clear of this somehow—and quick."

Although I could make far better speed than that preposterous machine, it seemed better to accompany him than to wander aimlessly.

The Crash

SADLY, that night I gazed up at the red, fourth planet.

There rolled a world which I could understand, but here, all around me, was chaos, incredible, unreasoning madness.

With me, in the machine, sat three friends of Tom's whom he had picked up at the last town, and Tom himself who was steering the contraption. I shut my plate off from their thoughts and considered the day I had spent.

Once he was assured that we were free from pursuit, Tom had said to himself:

"Well, I guess that deserves a drink."

Then he stopped on a part of the hard strip which was bordered by a row of artificial caves.

Continually, as the day wore on, he led me past gaping crowds into places where every man held a glass of colored liquid. Strange liquids they were, although men do not value water on the third planet. And each time he proudly showed me to his friends in these places, he came to believe more firmly that he had created me.

Towards sunset something seemed to go seriously wrong with his machinery. He leaned heavily upon me for support and his voice became as uncertain as his thoughts were jumbled.

"Anybody comin' my way?" he had inquired at last and at that invitation the other three men had joined us.

The machine seemed to have become as queer as the men. In the morning it had held a straight line, but now it swayed from side to side, sometimes as though it would leave the track. Each time it just avoided the edge, all four men would break off their continuous wailing sounds to laugh senselessly and loudly.

It was while I struggled to find some meaning in all this madness that the disaster occurred.

Another machine appeared ahead. Its lights showed its approach and ours must have been as plain. Then an astounding thing happened. Instead of avoiding one another as would two intelligent machines, the two lumbering masses charged blindly together. Truly this was an insane world.

There came a rending smash. Our machine toppled over on its side. The other left the hard strip, struck one of the growths at the side of the road and burst into naked flames.

None of the four men seemed more than a little dazed. As one of them scrambled free, he pointed to the blaze.

"Thash good bonfire," he said. "Jolly good bonfire. Wonder if anybody'sh inshide?"

They all reeled over to examine the wreck while I, forgotten, waited for the next imbecility to occur on this nightmare world.

"It'sh a girl," said Tom's voice.

One of the others nodded solemnly.

"I think you're right," he agreed with difficult dignity.

After an interval, there came the girl's voice.

"But what shall I do? I'm miles from home."

"'S'all righ'," said Tom. "Quite all righ'. You come along with me. Nishe fellow I am."

I could read the intention behind his words—so could the girl.

There was the sound of a scuffle.

"No, you don't, my beauty. No runnin' away. Dangeroush for li'l girlsh—'lone in the dark."

She started to scream, but a hand quickly stifled the sound.

I caught the upsurge of terror in her mind and at that moment I knew her.

The girl whose machine I had mended—who had been grateful.

In a flash I was amongst them. Three of the men started back in alarm, but not Tom. He was contemptuous of me because I had obeyed him. He lifted a heavy boot to send it crashing at my lens. Human movement is slow: before his leg had completed the back swing, I had caught it and whirled him away. The rest started futilely to close in on me.

I picked the girl up in my fore-rods and raced away into the darkness out of their sight.

Discouragement

AT first she was bewildered and not a little frightened, though our first meeting must have shown that I intended no harm.

Gently I placed her on top of my case-work and, holding her there with my fore-rods, set off in the direction of her journey. She was hurt, blood was pouring down her right arm.

We made the best speed my eight legs could take us. I was afraid lest from lack of blood her mind might go blank and fail to direct me. At length it did. Her mental vibrations had been growing fainter and fainter until they ceased altogether. But she had been thinking ahead of us, picturing the way we should go, and I had read her mind.

At last, confronted by a closed door she had shown me, I pushed it down and held her out on my fore-rods to her father.

"Joan . . . ?" he said, and for the moment seemed unsurprised at me—the only third planet man who ever was. Not until he had dressed his daughter's wounds and roused her to consciousness did he even look at me again.

There is little more. They have been kind, those two. They have tried to comprehend, though they cannot. He once removed a piece of my casing—I allowed him to do so, for he was intelligent—but he did not understand. I could feel him mentally trying to classify my structure among electrically operated devices—the highest form of power known to him, but still too primitive.

This whole world is too primitive. It does not even know the metal of which I am made. I am a freak . . . a curiosity outside comprehension.

These men long to know how I was built; I can read in their minds that they want to copy me. There is hope for them: some day, perhaps, they will have real machines of their own. . . . But not through my help will they build them, nothing of me shall go to the making of them.

. . . I know what it is to be an intelligent machine in a world of madness. . . .

The doctor looked up as he turned the last page.

"And so," he said, "it dissolved itself with my acids."

He walked slowly over to the window and gazed up to Mars, swimming serenely among a myriad stars.

"I wonder," he murmured, "I wonder."

He handed the typewritten sheets back to his daughter.

"Joan, my dear, I think it would be wisest to burn them. We have no desire to be certified."

Joan nodded.

"As you prefer, father," she agreed.

The papers curled, flared and blackened on the coals—but Joan kept a copy.

THE END

Watch for the Spring Edition
"AMAZING STORIES QUARTERLY"
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Cosmic Steeple-Chase

By Robert A. Wait

Author of "Clavilux," etc.

IN our own little world we are doing pretty well. If progress was not particularly rapid at the beginning of life—as far as we know—civilization, it seems to us, has more than justified its existence within the last century—mechanically speaking. But what if there is a race of intelligent beings somewhere in the universe to whom we might well seem like a lot of groping, ignorant children? Here's what an astronomer thinks about such a possibility.

Illustrated by MOREY

CHAPTER I

JOHN BALDWIN stretched his long lank form and arose from the easy chair. His book fell to the floor.

"What you readin'?"

His wife was sewing on little John's much torn and worn breeches.

"Book on astronomy," answered Big John. "Very interesting. Tells all about the planets and stars and things called nebulae, and what inconceivable distances there are between us and the stars we see each night. Where's Alice?"

"Abed and asleep an hour ago."

"Alice'd be interested in this. Wasn't her Professor Jameson quite a bug on stars?"

Pie in one hand and with the other jingling small change in his pocket, the tall man passed out into the backyard to gaze at the stars about which he had been reading. The heavens shone with points of light; millions of them perhaps. The book had said that some of them were billions of miles away. Even the closest was too far even to be reached during a lifetime, riding in the swiftest airplane. Out in the back lot where the horses were pastured the big pond reflected many of the low-hung gorgeous diamonds of light. Shaking his head as though to give it up, the gaunt man turned to go in to bed.

Suddenly a flare from above lighted the land about. John Baldwin wheeled and gazed in terrified awe at what he saw. High above, nearly at the zenith, was a great ball of blue-white light. From it streamed a trail of fire that appeared to extend back to the stars from whence it seemed to come. More brilliant it flared, changing to a blinding, dazzling mass of light which bore down on the little farm as a great demon intent on destruction. A shrill whistling sound filled the air and the terrified farmer screamed in horror as he saw his home and family directly beneath this oncoming doom.

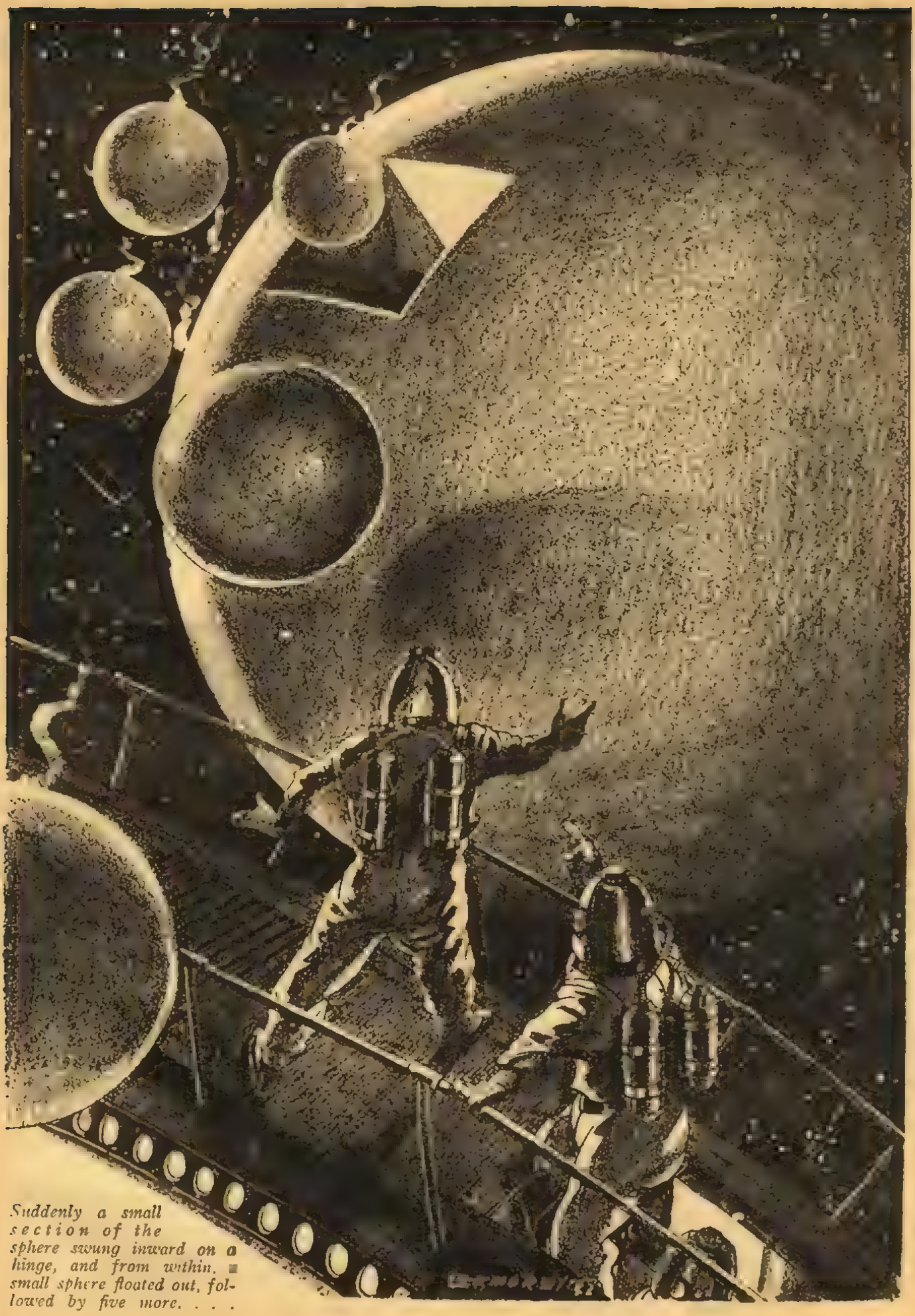
With a terrific crash, the descending firebrand struck the earth, right in the center of the big pond. A mighty wave splashed into the air as spray. A hiss of steam and a detonation, as of a siege mortar, followed. The earth shook, the buildings rocked, and the horses and cattle stampede, as the pond waters struck the white hot object in their center time after time, blown back at each onrush by the great steam cushion formed at contact. Vapor arose and filled the air. A drizzle of moisture began to fall as the vaporized water struck the cooler air around, and the pond waters churned and boiled.

"John! John!" Mrs. Baldwin called in a voice which trembled and shook.

"I'm all right, dear," called the farmer. "Please bring our big electric torch and we'll see what damage has been done. Looks like one of Alice's professor's pets has settled on us of a sudden."

Examination showed little except that the stock was uninjured except for a calf or two scaled by flying hot water at the contact of the meteorite with the pond.

"Well, no good staying up tonight. No one is going to steal it, that's sure. Let's go to bed and see it in the morning when it's cooled off."



Suddenly a small section of the sphere swung inward on a hinge, and from within, a small sphere floated out, followed by five more. . . .

CHAPTER II

ALICE awoke at dawn. As her eyes drank in the glory of the dawn spreading over the neat farm, they rested on the stock that was her father's pride. How peculiar—they were all crowded to the north fence, whereas they were usually over at the pond this time of day. With eyes following mind to the pond, she started in genuine surprise. Pond there was none! More startling than that, however, was a gigantic shape in the center of the pond bed. Glittering and flashing in the sunlight, slowly revolving on a central shaft was a cylinder of burnished metal fully fifty feet high. Here was a mystery to solve!

"Dad! Dad! What is it?"

Big John was walking slowly around the big machine—for machine it surely was. No accident could produce a perfect pyramid, twelve sided and tapered beautifully from each end of the cylinder to its middle.

"Well, daughter, looks as though one of your Professor Jameson's pets had visited us. The sides are all so smooth and slick that I can't imagine where on earth it could have been made and much less who could be shooting such things about."

"Dad, I don't believe you are really that dumb. You say it was very hot when it struck. Honestly, Dad, is there anything to conclude except that it has been sent here from off the earth, either by design or by accident? Now you stay here and I'll get my note book. I want you to make written notes of all that goes on while I locate Dr. Jameson—he must not miss this."

She disappeared briefly into the house and returned with note book and pencil.

"There, Dad, I'll be back in an hour."

* * *

By three o'clock Dr. Jameson was on the farm and with Alice and Big John was hard at it to solve the problem of the visiting metal stranger.

"Do you believe it has come from without our earth's atmosphere, Doctor?" asked Alice. "I can't recognize the metal and the construction of the cylinder looks too perfect."

"I should say," replied the professor, "that this cylinder has been sent here by design from some place outside our atmosphere. Offhand, I should say it has come an enormously long distance. But we should know soon for, if you'll observe, the cylinder is becoming more active."

Sure enough the cylinder was opening up. As the two halves of the cylinder separated, an inner wall appeared. It was much the same as the outer shell except that it was perforated at regular intervals about the circumference.

Without any warning, a violent hoot, followed by a screaming wail, issued from the cylinder at the perforation point.

"Better get away," said Professor Jameson. "The near future will show what type of intelligence made that and what type of being it expected to find on this earth."

As the three hastily descended to the ground, the wail was repeated, much louder this time.

"Run!" shouted Big John. "Run for the house!"

The sides of the cylinder were pouring out a dense black cloud from the perforations. This rose immediately toward the heavens and spread into a giant plume. The great signal column floated slowly up. Another issued with a loud blowing noise. Ten times it was repeated. Then the hooting began again. Then hoots followed by screeches that fairly split the eardrums. Then again the signal clouds.

* * *

No further movement of any kind was observed about the cylinder until after dusk; light was fading fast from the sky and still no movement or sound about the big cylinder. Finally Alice squealed in delight as the cylinder came to life. The aperture from which the dark smoke had appeared was streaming out a golden rain accompanied by luminous vapors—a vivid pink which rolled out and up, billowing and massing as it rose high into the heavens. Suddenly there was complete darkness; even the vapor glow was quenched. From out the blackness a blinding flash split the darkness and a second later the three observers were literally blown to earth by a concussion that made all deaf for a full minute. Again complete blackness save for the points of stars.

"Wow! Wasn't that an ear splitter?" said Big John.

At this moment the next "spasm" began, and the trio watched with wonder the issuance of the pink vapor, the billowing, and when the darkness came, they all threw themselves flat and placed hands over their ears. Another terrific explosion—then silence and darkness.

"How long do you believe these signals will last?" Big John asked his question in a rather worried tone of voice.

"Signals will continue at more or less regular intervals for weeks unless we can find a way to stop them. It would seem reasonable to expect some sort of method of stopping them to be provided by the being who designed that cylinder. We'll go to bed now and tomorrow we may be able to find a way to stop the signals and get inside."

CHAPTER III

DAWN found the doctor abroad and active. At sunrise Big John was at his side. After considerable experimentation, the exposed shell of the cylinder yielded to a pry bar, and a large section of the cylinder flew off, revealing a dim interior. The three investigators climbed in and gazed about them. Evenly distributed about the small room were beings lying as though dead. The general appearance of each was that of a quadruped, in size about as large as a big bulldog. The rest of the body was perfectly smooth and nearly the shape of an egg.

To one side of the small circular room Jameson found a metal box closed by a common hasp type of fastening. This he quickly opened. Inside was a large sheaf of a material that resembled paper but was certainly a superior material. With the assistance of Big John, the box and sheaf were wrenched loose from the small shelf to which they had been fastened. Unfolding the sheaf of opaque, yet unbelievably thin sheets of paper-like material, they gazed with utter awe upon the most beautiful panorama photograph in colors that man could imagine. Across the top of the picture was a long set of characters—very evidently writing of some sort.

Passing over the photo to the rest of the manuscript, the three people attempted to make something of the beautifully executed figures they found there.

"Obviously this is writing, but of what kind we can only guess. The code used is extremely simple. I sincerely doubt if we are any of us intelligent enough to decode that."

They turned page after page of the manuscript and to their delight found nearly every page bore a photograph with lines of the hieroglyphics below it, evidently in explanation and discussion of the photographic view. One photo showed what was evidently an evening scene. Strangely enough there were three suns setting along the horizon. Three suns should indicate but one thing: the planet on which the photos were made was somewhere out in space, far from our own solar system.

"Now for the rest of this treasure house," said Dr. Jameson, laying down the manuscript. "We'll find many interesting things if I'm not mistaken. Let's hope they are not all as grotesque and horrifying as the display here on the floor."

The party went slowly down into the cylinder where they found much of importance showing the types of life, models of machinery, and pictures of scenes from the land from which the cylinder had come.

Progressing on to the room above the industrial display, the three humans found in it a veritable wealth of articles and demonstrations which depicted the art, literature, science, and research of the beings who lived on this far away planet.

Suddenly he pointed in great excitement at the sketchings before him.

"Friends, you are looking at the very first navigation map of the universe that earth beings ever saw! This is a map showing the position in space of the more important star groups and certain centers where planets may be found about some of the bigger, older stars. Note this grouping, the lines that represent flight, and this other group over here!"

Scarcely able to contain his enthusiasm, the professor searched further, while Alice and her Dad scanned the map. To the upper left was a grouping of stars, evidently seven of them in a group. Down at the lower edge was a set of stars which could be recognized only as one group—that commonly known as the Big Dipper. True to our view of stars, the two outer stars in the cup of the dipper formed a nearly direct line toward a single brilliant star on the map located about one-third the way from the left edge of the map. This star was a brilliant red color with a few rays about it. Easily recognized about this were a few less brilliant stars arranged in the form of the familiar Little Bear. About the big, bright, red star picture were arranged ten small dots, all at different positions. From the fifth dot out from the red star was a line which streamed across the pictured space in a magnificent curve terminating at one of nine dots surrounding a rather small yellowish spot which evidently was a star.

"Let me show you," said Dr. Jameson. "Here we are at the left. You recognize the Great Bear or Big Dipper. It, of course, points to the North Star, Polaris, with two of its stars. Polaris is part of the Little Bear which we see represented by those stars about Polaris. Over here you see the tiny yellow star surrounded by its nine dots. Alice, if you can't deduce the meaning of that from the rest of the constellations, I fear your courses with me were lost motion and energy. What puny little star do you think that is?"

"Why, Dr. Jameson, it's our own tiny old Sol, and the dots are its nine children, the planets. Furthermore, the line sweeping across the space shown here is supposed to represent the path of this cylinder in which we stand, leading us to infer that this cylinder was made and projected from the fifth planet of a planetary system about Polaris.

"Now, Dad, what you don't know is that Polaris is 407 trillion miles from us and that therefore its light requires some 69 years to reach us. According to calculation, this cylinder could have been made fairly recently, as we do not believe that speed of material objects in space is limited except by the time required to acquire velocity, or should I say to exercise acceleration. Of course, light travels rapidly, but even light is slow compared to what speed might be attained by a properly attracted or propelled object which traveled freely in space."

"Well," gasped the professor, "that is exactly what I deduced.

"Let's go and get some lunch, though. We can each take an armload of these manuscripts and this map and work on them outside. We have an excellent start with this map and the labels on some of these things we recognize."

CHAPTER IV

EAGER hands opened the door of his car as Jameson pulled up with a swirl at the doorstep of John Baldwin's modest home.

"Harry—I—I mean Professor Jameson! I'm so glad to see you!"

Alice became confused and glanced about to see if anyone had heard her blunder.

"I can't tell you how delighted I am to be here, Alice! And do call me Harry."

"Are you planning to stay indefinitely?" Alice laughed as she indicated a large Gladstone that the professor was hauling out of the tonneau of his car.

"This, young lady, contains the result of three months' study and travel. In this bag is more new knowledge than you can find in a score of encyclopedias."

"Are the manuscripts finished? How *did* you do it all in this short time? But do come in."

"Yes, I should say come in, young fellow. Give me that mysterious bag and follow my young imp, Alice, to your room. We'll have supper as soon as you wash and brush up a bit."

John Baldwin, known popularly as Big John, pushed the two young people ahead of him into the house, deposited the heavy traveling bag in the hallway, and watched with evident pleasure while Alice led the way upstairs to Jameson's room.

Seated at the table at the close of the delicious supper, the group of people began to edge the conversation around to include queries about the great piece of news that they all knew Jameson had brought.

"To reiterate a bit," began Professor Jameson, when they had adjourned to the living-room, "We consider ourselves fortunate to have translated the written records of our visitors. These notebooks are translations of the manuscripts. Each represented three months' work."

He lifted from the group of manuscripts the one they had first looked at. In it they found the beautiful color photographs which showed orange colored foliage and peculiar forms of life on what they had found was the fifth planet of a group of ten revolving about the Polaris group of suns.

"This contains much that is of interest, but even more we find in these other manuscripts. Now, as to the general method used in translating or should I say interpreting these. When I left here, I went immediately to an old friend of mine whom I knew to be intensely in astronomy and who is immensely wealthy. I finally prevailed on this Mr. Blake to subsidize a translation of these manuscripts. I engaged six assistants and have been hard at work since. And so interested in the whole proposition has Mr. Blake become that he has placed the bulk of his fortune at my disposal as head of a group, whose lives will be devoted to the thorough investigation of what we find in these manuscripts."

"I have here a brief outline of the combined translations of all these manuscripts," the professor continued in his discussions of the summer's work on the manuscripts. "Shall I read it?"

"Yes, please do, please," Alice begged.

There followed several hours of reading of the translations, discussions of what was read, and study on the plans sent for use during the proposed trip to Polaris. Complete plans were found for building a space ship capable of making the long journey through space to Polaris, and with these were whole volumes on the life and conditions to be found on Polaris planets.

At last the final parts of the translations were reached, and Jameson's reading concluded.

" 'We suggest that you collect about you a representative group of your best intelligences and interest them in this proposed trip. It will likely take the length of ten revolutions of your planet about your sun for the entire trip. We assure you that you will return to your planet and bear with you enough knowledge to make you as the gods among your fellow-beings.'

"That was all we could get clear," Jameson finished up. "Fortunately the plans, and directions for the space traveler are very plain—many photos, diagrams, actual pieces of material, and clear cut designs."

"John! It's one o'clock. I think you all ought to come to bed."

"All right, Flora. We'll quit for tonight. I wonder if I'll see whirling planets and great many-colored balls of fire chasing each other through my dreams," concluded Big John.

He did. So did Jameson, and Alice. But that wasn't all that these two dreamed about. Some way the stars were all blue eyed for Jameson, and Alice saw a tall, sandy-haired professor striding about on her dream-moons.

CHAPTER V

"I WOULD like to see Mr. Blake, please."

The speaker, a young man, dark in complexion, addressed himself to the doorman at the home of Jordon Blake.

"Come in. I will tell Mr. Blake you are here and give him your card, sir."

"Thank you," replied the young man as he went into the library.

Five minutes passed, and at length a voice aroused the visitor from the deep contemplation of a set of star charts on one wall.

"You are Mr. Allen Bellant, I judge?" the older man asked pleasantly of his visitor.

"Yes, and you are Mr. Blake. I have come to make a request of you, Mr. Blake. Will we be quite alone?"

"Yes, indeed. What can I do for you?" asked Blake as he closed the hall doors.

"I have in the recent past been called in for consultation on certain decoding work being done under the direction of a Professor Jameson. You know him, I'm sure."

"Yes, indeed, I know Jameson—fine fellow. But just what's the connection?" queried Blake.

"Mr. Blake, I happened to stumble into the entire story connected with that decoding work and have at my finger tips all the data and information with which to organize my own party, build a space ship, and go to Polaris as a representative of Earth. It happens that I know you have set your heart on being the first of earth-men to visit our star neighbors. For this reason alone I think you would rather I did not set up my own party and beat you to it. My proposition is this you will engage me as the official physicist for this proposed trip you are backing. Oh, I know all about it—how, you needn't know. If you don't see my way, I'll have to get financial backing elsewhere and take all the glory of leaving first. I understand the plans and principles of the proposed space ship better than anyone now connected with it."

"Young man, do you know that you are trying to blackmail me? That doesn't go here—I'll hire whom I please for this trip. I don't believe you anyway. The plans for our future trip have been locked away in a safety vault ever since they were worked out—you are bluffing, and anyway, I don't see why I should be bullied by the first stranger who happens along."

"Jordon Blake, I'll ask you to glance at these sheets of Van Dyke prints," and he held out a sheaf of plans to the older man.

"Well—what have you to say now?"

"I—well—damn it, young man, you are plain racketeering—blackmailing. I guess you *do* have the dope on the space ship, but I shall expose you—have you arrested and put in prison for blackmail. My word is law in this vicinity," Blake sputtered, growing excited.

"My dear sir, let's not get excited. Why use that ugly term, blackmail? I am merely making you what I feel is a very fair proposition. I am offering you silence and assistance in your proposed trip for the mere privilege of accompanying you on the voyage as physicist. As for your threat of openly condemning me and having me arrested, if I were you I'd be careful what I did. May I recall to your memory that there is a certain colored gentleman hiding in your firewood? I mention the name of Worthington. Need I say more?"

Bellant smiled with a crooked sort of twist to his mouth and laughed gently as Blake flushed hotly, then went pale.

"Where did you hear my name associated with that of Worthington? It was all a mistake started by a malicious lie! I was perfectly square, and then he lied about it all. I had to do it or lose my entire fortune. I tell you I was square. It was all a terrible mistake."

"The courts would not think it square, should I choose to tell what I know. I may find it necessary to publish what might rob you of every cent you now have. Of course, if you are reasonable, and comply with my very modest request that I be engaged as your official physicist on the trip to Polaris, I am sure I can forget and let by-gones be by-gones."

"I won't submit to such brow-beating. You can't

scare me that way. You've heard some remark dropped somewhere and are using it to try to frighten me into giving you what you want. No, I'm damned if I'll consider you at all for the trip."

Jordon Blake blustered mightily and accompanied his outburst with sweeping gestures.

"Very well," said Bellant quietly. "You are making the decision for me. In order to get the financial support I need to beat you out to Polaris, I shall have to expose your dark past I am afraid—much as I regret it."

He rose to leave, picking up his hat and cane, and passed into the hallway. Blake remained irresolute beside the mantel. Once he started forward, then stepped back.

"I must bid you good evening, Mr. Blake." Bellant spoke gravely and disappeared from the library door. Blake's voice suddenly came clearly from the library.

"Bellant! Wait! Come back. You win."

Bellant hesitated a moment, then at a second call from Blake, he closed the door and returned to the library.

"I am glad to see you are reasonable after all, Mr. Blake," he said.

"I'm not reasonable, or I'd throw you out, Bellant. However, I believe we can use a man of your wits on this trip. You shall be signed up now as our official physicist on the trip to Polaris, providing you will sign a statement that you know absolutely nothing about my private affairs. Here is paper and my pen. Write out our contract. You will include the statement I have mentioned. What salary do you want?"

"All I ask is that you completely furnish a private laboratory aboard this space ship in accord with my directions. This is to be entirely secret, and you will have to agree to know absolutely nothing about it—you scarcely know me and engaged me because of my reputation. Do you understand? You must not interfere in any way with experiments I may wish to perform. Do you agree? Very well, I'll put it all in the contract."

Half an hour later the two men parted at the door, apparently good friends.

"I am sure we will get along famously on our coming voyage," said Bellant. "Now that we thoroughly understand each other," he added as a parting shot, and turning on his heel got into his car and drove off.

CHAPTER VI

THE next morning, about nine o'clock, a young man called at the farm and asked to see Jameson.

It was Alice who met him and informed him that Jameson would be back from town shortly. In the meantime it would be her pleasure to entertain a friend of Professor Jameson.

"My name is Allen Bellant," the caller told her.

"I am Alice Baldwin. I was a student under Professor Jameson last year in college. I studied astronomy in his classes."

"I guess you are interested in the interstellar visitor you had last spring then," the visitor suggested. "That cylinder is my reason for coming, although I see now I didn't know what attractions there were up here," he continued, looking boldly at the girl.

Alice flushed and laughed confusedly. She was not sure she liked this young fellow—yet he was young and appeared to be interesting.

"Mayn't I show you about the farm a little?" the girl suggested, and presently the two of them were wandering from meadow to woodland, from pasture land to the barnyard, laughing and talking.

Shortly Harry Jameson drove up, parked his car, and went into the house. A little later he came out, looked about for Alice and, seeing her with a young man, decided not to interrupt. As he was turning to sit down on the porch, Alice saw him and immediately brought Bellant to the house.

"Professor Jameson, this is Mr. Bellant, a friend of yours. I have been entertaining him while he awaited your return from town."

"Bellant! Of course I know him. He was a great aid in helping us over certain technical points in decoding of the plans we looked at last night."

Jameson welcomed Bellant warmly and asked what brought him this far from his home.

Explanations followed and Bellant gave Jameson a letter of introduction and instruction from Jordan Blake in which the financier asked that Bellant be given all details as he was to accompany the party on the Polaris trip. Since Bellant had an exceptionally good reputation as a physicist, Jameson was very pleased with the prospect. Had he known to what direction Bellant's attention was going to turn during this proposed trip, he would never have consented to go ahead with the plans. Even during the examination of the cylinder and in the long discussion in the afternoon, Harry found much amusement in the rather open admiration Bellant showed Alice, sometimes to the girl's confusion. Several times Jameson found Bellant's mind and eyes centered on Alice at the end of a long explanation of some parts of the plans for the ship and trip.

That evening Bellant proposed that the whole family go into town to see a movie. After much discussion, the family decided that just Alice, Harry, and Bellant should go, and that the rest would stay at home this time. It was finally so arranged, and the trio went off to the small city soon after the evening dinner.

After the show they visited a confectioner's for a dish of ice cream where Bellant monopolized the attention of Alice and in every way held the center of the girl's interest.

Jameson pondered: was he, he wondered quite suddenly, really jealous? Such a thought had never entered his head before, but as the idea filtered in and about his mind, he became suddenly conscious that he felt a genuine affection for this student he had taught. She had flowered out so much during the summer—had literally grown up from a college girl to a young woman.

At return to the farm, Jameson agreed to get together a set of data for Bellant to take with him that evening on his return home. In the meantime, Bellant said he and Alice would stroll about the yard in the moonlight. Jameson hurried through the drawings and notes he was copying for Bellant and in half an hour went outside in search of the couple.

He called softly, but had no reply. A thorough search of the yard disclosed no sign of the two, and Harry was at a loss as to where to find them. Suddenly he heard a voice raised in mild protest. It was Alice speaking.

"Please don't; Mr. Bellant!"

The voice came from the summer house down the lane toward the wooded part of the farm. Again the protest came.

"I asked you to stop."

"But I love you, girl," Jameson heard Bellant say in a very low voice.

"Nonsense!" replied Alice. "You've only just met me. Anyway, I am not sure I like you—I know I shall not if you insist on annoying me."

Silence ensued, and Harry debated whether he should intrude or simply wait for them to return from the summer house. The final outcry decided him.

"Allen Bellant! If you touch me again, I shall go in and leave you!"

Harry was off like a streak. The girl was being annoyed, and Harry was certain now that his interest in Alice was at least more than casual. As Jameson arrived at the summer house where the moonlight filtered through in black lace and silver, Bellant stepped up to Alice, took her in his arms and attempted to kiss her.

"Mr. Bellant!" Alice cried in alarm, and then as if in appeal and pleading to a protector, she called aloud, "Harry! Harry!"

With an exaltation of soul and a thrill of greater joy than he had ever known before, Jameson covered the distance between them in a bound, grasped Bellant by the shoulder, and whirled him back against the railing with a crash. The physicist struck the low seat, tripped, and plunged headlong over the side to the grass below.

"Oh, thank you, Harry," the girl cried softly as Jameson gathered her into one quick embrace. Unfortunately Bellant had picked himself up just in time to see the two in each other's arms.

"So that's it, is it?" he half sneered. "Well, of course, I didn't know I was trespassing. I'm sorry if I caused you any worry, old man, but I completely lost my head. Too much moonlight I guess."

"Your drawings and data are in your car, Bellant. I'd rather not talk to you now. You'd better go. I will look you up later."

Jameson spoke in a restrained voice, obviously holding himself in leash only by great effort.

"All right, I'll go. Don't forget though, I'm going on that trip to Polaris with you. I rather suspect Miss Baldwin plans to go, too, doesn't she?"

With a queer little laugh Bellant left them, and they heard him slam his car door.

The man and woman stood quietly, side by side, while Bellant made his retreat. Then as the car slipped away into the distance, Harry turned to the girl and started to speak.

"No, let's go in—not tonight. I—I don't trust myself now. You were wonderful, and I want to think about it. I—I just called for you as if you belonged to me, didn't I?"

As he started to speak again, Alice hushed him a second time.

"No—not tonight. We are not ourselves right now. I can't trust myself to judge sanely now. I'm too happy, yet a little frightened, too. Take me in, Harry."

It was well past midnight when Jameson arose from his lonely seat on the porch and made his way to bed, calmed at last, and infinitely happy.

CHAPTER VII

JUST a year and a day had passed since the arrival of the cylinder from Polaris. During that time the complete translation of the manuscript had been made and directions for a space ship followed to completion.

The last potato had been stowed away in the food lockers. Ten years supply of condensed milk was aboard. Refrigerating rooms held hundreds of whole animals for fresh meat supply. Thousands of small packages of spices, teas, coffees, and condiments were stowed away below. The enormous enameled water tank had been filled, and the water purifiers and recoverers were in place for work. Not a molecule of water should escape from this ship once abroad in space. In the storerooms were myriads of blocks of chocolate and various concentrated foods. Huge slabs of compressed dehydrated vegetables were stacked aside. Tons of dried fruits and hundreds of cases of canned fruits filled one section. Barrels of lime juice occupied one refrigeration room. Another was stacked with several tons of butter and margarine. Each compartment was crammed to the limit. Everything that could possibly be needed was provided, and a space found for it in this big ship which was soon to sail the seas of space.

The night of June 21st was clear and cloudless. About the completed ship were hundreds of tents. This was the big night, and many people were there to witness the take-off of the ship. Many had come to witness what they termed "the big flop." They did not believe that the ship would actually "fly." Others were there to see the greatest event in history take place. A delegation of scientists from foreign nations arrived about ten o'clock.

The members of the expedition or Interstellar League were all established in their apartments. All told, there were twenty-six scientists; three ladies, including Alice Baldwin and two of the wives of the scientists. Besides these there was a cook, two maids, and a steward. The time of departure had been set for midnight, and everyone was excited. Even staid and elderly professors paced the floor and nervously wished the ship was on her way. Relatives of the passengers were saying their goodbyes, and wives were departing in tears as they left their husbands for at least ten years—many firmly believed, forever. John Baldwin and his wife were visiting calmly with Jameson and their daughter Alice. To them the greatest blow would come when the huge ship actually rose from the ground into space.

Outside flares lighted the glade about the traveler and sightseers sat patiently about waiting the exciting event soon to take place. Some had built camp fires and large shadows danced across the tree tops at the edge of the cleared space in the woods. Everyone became more restless as the time eased up toward midnight.

At eleven fifty all but passengers were ordered off the ship. At eleven fifty-five the doors swung into place and were sealed—no one knew for how long. The oxygen apparatus was started and the purifiers started their long grind of work. The port windows showed a glow of light from within, and at one side where a small bulge occurred in the side of the ship, the astronomical instruments were being trained on Polaris with great care.

At one minute to twelve at a signal from within the ship, John Baldwin threw a switch on a nearby tree which fired ten cannons that shot skyward flaring projectiles. Long trails of green, red, blue, and golden rain fell away behind these signals. The whole countryside for a hundred miles was watching for this—telegraph wires sang and radios flashed the news abroad. It meant the departure of the Earth for Polaris!

Thirty seconds left! Big John stepped under the ship to the base, ignited a master fuse which led to six enor-

mous flares of magnesium metal on the base. These would be visible for hundreds of miles as the ship streaked out into space.

Ten seconds! A shrill whistle split the air, and everyone in the glade started back as close to the edge of the woods as possible.

Two seconds yet! A salute of three bombs shot up into the air and exploded with terrific concussions on the exact stroke of midnight, and on the second the space ship swayed slightly, slowly rose like a balloon, and ever gaining speed, fled out and up toward the pole star, its flares lighting the whole land about.

As it shot up and away, a great shout arose from the assembled group. Colored lights sprayed a rain of fire and balls of red and green from the edges of the ether ship that flashed out after the stars. The whole affair seemed a mass of colored lights and fire. This was the greatest celebration man had known for centuries—the fences of space were being hurdled and man rode the steed that raced in the steeple-chase!

John Baldwin sobbed aloud and turned to his wife. Her eyes were full of tears, but she uttered no sound. Out into eternity two of their dearest and nearest ones sailed—pioneers on the cosmic ocean of space!

CHAPTER VIII

"HOW perfectly absurd," laughed Alice Baldwin as she lifted a whole library table on one hand and moved it across the side of the room. "Whatever can be the explanation of that, Harry? I could never lift that table on earth. What changes have come over us to so increase my strength?"

The party composed of some thirty scientists had been some hours on the way toward their goal—the star Polaris. The large space ship in which Alice and Harry stood bore some twenty-eight other souls through the cosmic night on toward the Pole star, bound for the fifth planet in the system of ten that had been found to surround Polaris.

"Your strength has not increased, dear, except as we think in terms of relativity. The gravitational effect of earth is no longer felt by the articles in the ship. If it were not for the artificial dense body in our base, the furniture would all float about the room in response to every breeze or air current. If you tried to walk, you would find yourself shooting across the room to bang into the other wall."

"I see what you mean, but can't you explain it a little more fully? I'm dumb, I guess."

"Dearest, you don't need to be bothered with any more explanations. Suffice it to say that the pedestal of this ship is loaded with a close relative of neutronium, that mythical element made of condensed protons and electrons. The gravity effected thereby, or the space curving, is about half as great as earth itself. But let's forget all that and dream of the future. It seems a long time—ten years—till we can be together for always. But mark my words, before you know it, we'll have been on our journey for a year."

"What do you mean, Harry?"

Jordan Blake entered the room at that moment and paused to listen to what Harry had to say.

"According to our watches and the ship's log, about three terrestrial years will elapse before we set foot on land again—if we don't get annihilated between times. However, you'll never believe it. You see, we won't eat more than once in three days. With gravity halved and traveling without any real time unit to observe but our watches, time becomes only relative. Of course, as we lose track of time (our watches will soon get out of adjustment) we do not do so many things nor do our bodies need to function at such a speed as formerly—result: we do not grow old so rapidly! The ten years of time to be consumed in the journey, *earthly* speaking, will cause a change of only about five years in those aboard this ship. Seems incredible, but you'll find it true. Now off to rest, Alice—one tires even out in space."

"I'm a bit curious about some of the features of our trip I never understood."

Jordan Blake blew a cloud of blue smoke toward the lights in the ceiling and continued.

"From my limited reading on such subjects, I understood that as a body approaches the speed of light, it becomes shorter and shorter in the direction of motion until at a speed of 160,000 miles a second, it would be but half the length it was originally. If it reached the speed of light, it would have become zero in length. Is that right?"

"It is not, in my opinion," answered the young professor quickly. "You refer to the Lorenz-Fitzgerald theory, of course. We of this cruise have come to regard this theory as possible only when applied according to earthly standards."

"You tell us," continued Mr. Blake, "that we will cover the distance between earth and Polaris in three solar years or less, and in the same breath you state that Polaris is 69 light-years from earth. I gather from that we will average twenty-three times the speed of light on our trip. Am I right?"

"You are correct, Mr. Blake. As a matter of fact, I see no reason why we could not gain much higher speeds than that. However, speed becomes only relative to one's capacity for conceiving it in my opinion. If one thinks in 'large thoughts,' he should be able to take in the idea of eternally gaining speed. We scientists have concluded, after much thought, that we are not traveling in ordinary space. Once we reach the speeds approaching that of light, we begin to travel in the fourth dimension of space, we believe. The laws we so solemnly pronounced correct as professors of physics and mathematics do not seem to hold once we get off the earth. It would seem certain that we would be crushed by the acceleration of this ship as it rushes faster and faster. We are not subject to the same conditions here as on earth—thus every molecule of the ship and contents is 'pulled' equally along so there is no tendency for any part to 'flatten out' as we used to believe sudden high acceleration would treat organic bodies."

"Run along, Professor. I'll think it all over. You must get your rest because we'll need you at your best on this trip."

CHAPTER IX

THE daily routine continued to be kept and as Alice had taken on the responsibility of keeping the time and calendar for the party, it was she who announced finally that they had been on their way some two and a half years. Throughout this time the ship had hurtled through space at the unimaginable speed of some five million miles a second.

The mathematician in the party had long ago ceased to argue about the speed of the ship. For the first year a constant effort had been made to bring theory and fact together in figures and formulas showing that the speed being attained was theoretically possible. Speeds greater than light had always been conceived impossible, yet the facts remained that they were making twenty-three times the speed of light. The famous theory of Lorenz-Fitzgerald stating that as the speed of a body increased toward that of light, the body contracted physically in the direction of motion, did not seem to hold. After much discussion and thought, the entire body of scientists confirmed the opinion of Jameson that the ship must no longer be traveling in regular three dimensional space. Whether the machine and its occupants had passed into a higher dimension was no longer problematical—it appeared to be cold fact. In other words, Harry explained to Alice, at the speed they had attained, they could no longer be bounded by three dimensional space, but had become subject to the laws of another dimension.

The first sign of trouble aboard appeared almost simultaneously with Alice's announcement that only six months of earth time remained before the scheduled arrival at Erb, the planet for which they were headed. For nearly a year the physicist aboard, Allen Bellant, had been paying a little too much attention to Alice, in the opinion of Harry Jameson. This was not at first annoying, but as the attentions became more and more insistent, Alice showed great resentment and even spoke to Bellant, assuring him that he was wasting his time. Apparently this meant nothing to the young scientist for he continued his personal favors and even increased his efforts to talk to the girl. Admonitions by the older men in the party did not deter him and it was only after an open breach of faith that Jameson finally forced himself to accost the young fellow.

It was while the greater portion of the ship's population was asleep that the first clash came. Alice had just left Harry on watch for other space ships to return to her stateroom and was passing up through the darkened corridor when Allen Bellant suddenly stepped out from behind a pillar and confronted her.

"Oh!" You startled me so, Mr. Bellant," the girl gasped as she struggled to regain her composure. "I had no idea anyone was about."

"So I surprised you, eh? Well, I guess I can get some of your favors, too. Why don't you give me a break? I've tried every way to interest you and you just give me a cold stare. I tell you I love you."

The girl recoiled from this outburst against the wall of the ship, a half frightened expression on her face.

"Oh, don't try to high-hat me," resumed the young fellow, now entirely irrational. "I know what I'm saying, and I'm going to have you, see? I don't care how, but get me, you'll be mine sooner or later."

"Mr. Bellant," cried the wrathful girl, fully herself again, "I will ask you to stand aside and allow me to go to my rooms. I don't care to discuss anything with you and certainly not in the ugly mood in which you now seem to be."

"Oh, you don't, don't you. Well, we won't need to discuss it. I'll just take what I want and make you like it!"

The man strode forward suddenly and caught Alice before she knew what was happening. With all her strength, the girl fought off this half-crazed fellow, but she was no match for his strength. Farther and farther back he bent her, attempting to get the kiss he thought he should have. The girl's back was nearly broken and her head swam as she struggled to free herself. With a last effort she screamed aloud.

"Harry! Harry!"

"Damn you, you witch. I'll have you yet. Call your lover, and see what good it does."

With this the young physicist dropped Alice where she was and fled, only an instant before Jameson appeared at the lower end of the corridor.

"Alice? Alice? Did you call?"

Jameson hurried up the dark hallway and did not even see the girl before he tripped over her prostrate body.

"Dear! Are you hurt? What was it? Tell me quickly!" he cried in tense but low tones.

Alice smiled weakly at him and shook her head, sinking immediately into unconsciousness. Jameson lifted her quickly and took her to the rooms of his colleague, Smith, whose wife was aboard. Shortly they had revived the girl, and she sat up blinking.

"What was it, dear?" Harry pressed the question.

"I—I don't exactly remember," the girl faltered. "Something large and black came to me and frightened me. I'll be all right now, I guess. No, I'd rather go back on watch with Harry. I'll feel safer there."

After their return to the observatory, the girl confided to Jameson just what had occurred. For many minutes they discussed it, and after mature thought Harry arose and went directly to Bellant's room to see the fellow. Better have it out at once Harry thought.

At Jameson's knock, the door was flung open by the defiant and sullen Bellant.

"I've nothing to say to you. I don't want to talk to you. You must think I'm dumb not to know what goes on between you and that girl. Oh, don't look so righteous—I'm not blaming you any. I simply intend getting mine too."

This tirade from the physicist was met in stony silence by Jameson. The young astronomer's face was slowly whitening and becoming tense. Bellant noted this and suddenly fear entered his heart and a frightened look flitted over his face. He tried to shut the door, but Jameson flung it open, throwing the culprit to the floor within. Stepping inside, Harry closed and locked the door.

"Bellant, I ought to whip you within an inch of your life for those last remarks. What you infer is neither true nor in any way justified by Miss Baldwin or myself. I gather that you said practically the same thing to Miss Baldwin. That is unforgivable. I came here to discuss this with you calmly. You meet me with vile insinuations. I don't know that I am doing you a favor by refraining from thrashing you good."

By this time Bellant had fully recovered from his momentary faint-heartedness, rose insolently, and with a swagger faced Jameson, a leer and smirk twisting his good-looking mouth into a half smile.

"Trying to scare me out? Playing the hero? Why take that 'better than thou' attitude? Afraid I'll horn in and take her away from you? Why man, I know how lovely she is. You can't have her all yourself. As I said before, I intend to get mine just as you are getting yours!"

Jameson went white. His body became tense, his eyes flashed steel-blue sparks as he spoke.

"I warned you. I told you you were mistaken. Now hear this: you are a lying coward. I gave you the benefit of the doubt before. Now I'll give you something else."

With a stride Jameson covered the distance between them and struck Bellant full on the jaw. Ordinarily, the blow would have felled a larger man, but Bellant was on his toes and kept his senses, striking back with all his strength. Back and forth they fought, around the room, upsetting tables, smashing chairs, tearing the drapes, and creating a fearful hub-bub. On their feet, now clinching and rolling heavily about, gauging each other, pounding, and strangling. It was the primitive beast in each man fighting for the possession of the one woman. On their feet once more, the two circled cautiously. Suddenly Jameson tripped on a torn rug, falling to one knee. Instantly Bellant rushed him, a broken chair leg upraised to strike. Jameson froze in his position, his body steeled to answer the instant command his mind was ready to flash. As Bellant towered above him, bringing the chair leg down with terrific force toward Jameson's skull, the kneeling man flashed into action. His right fist shot up like a bolt of lightning, his left shoulder caught the terrible blow of the chair leg as he rose, the right fist catching Bellant squarely under the chin and lifting him clear off the floor. Without a grunt or a groan, the physicist sailed through the air and alighted in a dishevelled and unconscious heap. Jameson looked once at the fallen man and turned to go.

"Open this door!" shouted a voice outside, and someone pounded heavily on the panels. Jameson went to the door, shot back the bolt and flung open the door.

"What is the meaning of this? What is this fight about? Who began the affair?" A hundred questions from the ten people assembled outside the door fell quickly from their lips. Past them all Jameson strode, turning to answer only as he reached the end of the corridor.

"Ask Bellant," he said and disappeared.

CHAPTER X

DURING the next six months very little was seen of Bellant about the ship. He seemed to have been completely cowed by the beating he had received from Jameson. Most of the time the young physicist spent in a private laboratory of his own which he had fitted up before leaving Earth. What he was doing no one knew, as he took no one into his confidence.

As the period of three years drew to a close, Bellant was forgotten in the excitement of the approach to their goal. Every hour brought the system of the Polaris suns and planets closer and closer.

The day came when the entire system of four suns and the accompanying ten planets was visible in the larger of the telescopes. The primary set, Alpha with its three units, seemed to be the center of the planetary system. The secondary star, the ninth magnitude companion of Alpha, seemed at an enormous distance from the primary bodies and seemed to have little or no effect on the planets. All three bodies in Alpha were exceptionally brilliant, and the pair which rotated as a sort of dumb-bell shaped unit, end over end, were light blue and a pink color respectively. The central body about which this gyrating pair swung was a dazzling white—not yellow like old Sol had been but pure, intense white.

It was while engaged in observations on this system of suns that the discovery was made. Far ahead to the left several of the party using low power telescopes noted several odd black shapes. These increased from pin points to definite dots in the space of a minute, and at the same time took on a definite shape—long and thin like wee dashes of black in space.

Immediately Jameson ordered the speed of the earth ship checked. Besides wishing to come up slowly to these bits of matter, he thought it high time that they return to the third dimension of space by cutting down enormously on speed. They were getting perilously near their goal to travel at rates so excessive of normal interplanetary speed. A slow approach would give time for observation also.

By this time the black dashes in space had become definite shapes. They were much like black cigars in appearance now—very far off, but of definite shapes and therefore not stray matter in space.

"The first of our colleagues! I wonder from where these space ships came. We will know soon now for a few days more will put us into yon system and down to our landing on Erb, the fifth planet of the system."

Jameson talked with Alice considerably during the next few hours and the two were the first to discover the ship overtaking them from "behind," or properly, "below" them.

Immediately ten of the scientists donned space suits and in groups of three or four went through the air locks out on the hull of the space flyer to watch the overtaking ship pass them. They took with them celestial maps on which earth and old Sol were plainly indicated. If opportunity offered, these would be sent to the passing stranger.

The small speck behind gradually grew to a sizable spot, took on shape, and finally drew alongside the earth flyer. The newcomer was built in the form of a sphere and had no ports or windows visible. It was made of what looked like a glass with all the visual qualities of some of earth's white metals. Several of the scientists at once decided it must be made of a transparent metal of some sort or else a specially hardened and colored glass.

Jameson and the rest who went out on the hull waved and signalled every type of code they thought might even be noticed by the occupants of the strange ship. As no doors or windows showed on the hull of the sphere, the earth men assumed that the hull of the ship must be transparent, at least from within. They were unable to peer into the sphere from the earth ship.

By now the sphere ship had come to the same speed as the earth flyer and by token of this Jameson reasoned that the occupants of the stranger had recognized the earth men as living beings. Suddenly a small section of the sphere swung inward on a hinge, and from within the port thus formed, a small sphere floated out, followed by five more—a dull grey colored fabric body it appeared to be. These seemed to be propelled by small jets of escaping gas under pressure. One sailed over to the earth ship, circled above the heads of the men, and returned to its own ship. Suddenly, all of the fabric spheres rose and flashed over the intervening space between the flyers, coming to rest on the hull of the earth ship.

The Jameson party gathered around the visitors and were suddenly surprised to see a plate in one of the fabric sides glow to light. On it came a diagrammatic

picture of the solar system. A pointer indicated the third planet, Earth, and a picture of a man appeared beside it. Across the plate a way, the diagram indicated the ninth planet of the solar system discovered by earth men only a few years earlier. Beside this planet appeared a picture of a small sphere-like body with short appendages—all covered with heavy scales. Suddenly the picture became a movie—the sphere body pictured rushed across the diagram to the earth man and with a small instrument detached from its belt, sent a brilliant crimson streamer at the man, blasting him to shimmering dust. There followed in quick succession a movie of the two space flyers, and as the two approached the Polaris system, the earth ship was pictured to turn tail and speed away back toward earth. The plate darkened, then flashed a picture of the two ships approaching the Polaris system closely. Suddenly the spherical ship flashed sidewise and crashed into the earth ship which it burst asunder, and passed on through unharmed.

The plate went black, and with a quick jerk the six fabric spheres rose from the earth ship. Swiftly swooping in an arc, these spheres struck down six of the earth party and streaked out for their own ship.

"A declaration of war!" shouted Jameson. "They want to be the sole representatives at the conclave at Erb. That scene shows them to be from the ninth planet of Sol—the one discovered a few years ago. So little is known about it that we were unable to tell if it was at all habitable. These beings must be able to stand terrific heat changes. Probably there is no liquid in their make-up."

At the moment Jameson was violently bumped from behind and as he whirled to see what had hit him, a piece of paper suddenly materialized in the void before him and floated toward the deck. As he reached for it, he was quickly bowled over and thrown along the deck. Repeated efforts to see what had hit him disclosed nothing at all—all his colleagues were twenty feet from him.

Gaining his feet quickly, Jameson recovered the paper which had so mysteriously appeared before him. As he straightened up, he was surprised to note a luminous trail streaking out from the earth ship to the sphere of the declared enemy. The fabric spheres of the enemy were preparing to enter their ship as this luminous streak reached them. Suddenly these spheres were thrown roughly to one side and the trail of faint purple disappeared into the circular opening in the side of the sphere. Quickly the fabric spheres crowded into the opening and the circular door swung into place, leaving a perfectly smooth surface.

Jameson hurried to the entrance lock of his own ship and plugged in his microphone to the interior speaker in the ship.

"Get Bellant for me quick. He may be able to explain some of this light phenomena to us."

"We've been trying to find him for five minutes and can't locate him. His clothes are gone and so are all his note books and valuables. We have had something wrong with the air-locks just now too—they opened and closed by themselves for no apparent reason. You had better come in."

This answer was rather stunning but Jameson was not one to linger when cold facts might be available within. Suddenly the paper in his hand caught his eye; he remembered the bowling over he had just received—and looked quickly at the enemy sphere. It was rapidly moving ahead. Jameson began to think quickly. Bellant gone; locks operated by themselves; he had been knocked about; a trail of purple haze to the spherical flyer; a note materializing from mid-air. Hastily he turned and went rapidly through the air locks into the flyer.

"Call Alice Baldwin on the general news speaker," he commanded as he doffed his space suit.

"Sorry, Jameson, but we've been trying to locate her for the past ten minutes. Mrs. Smith was wishing to speak with her. We've searched the whole ship—even the store rooms. It's very strange, what with both Mr. Bellant and Miss Baldwin disappearing at once."

It was enough to crystallize the vague ideas Jameson had been framing in his mind. He ripped open the folded paper he had recovered out on the hull of the ship.

"My God!" Jameson was not profane, but spoke as if in prayer.

"What is it, Harry?" Jones queried as he took off his space suit.

"That infernal Bellant! He has left this ship for that enemy sphere—and he's abducted Alice with him. He created the strange path of purple haze from us to the other flyer. Where is the sphere? We must catch it—quickly!"

"Too late, Harry. The sphere is already out of sight." Jones was not consoling in the least.

"Then start immediately for Erb. We must obtain the help of our hosts in finding that rascal Bellant and my fiancée Alice. I will search the Universe for them if necessary."

"You are absurd, Jameson." Smith spoke. "It would be impossible for Bellant to get from our ship to that enemy sphere without us seeing him, not to speak of taking with him an active girl like Alice without our knowledge."

"That is where you are wrong, Smith," countered Jameson. "Listen to this note: 'It is brains, not brawn that win. You can best appreciate the saying "mind over matter" by trying to find me—or your ex-sweetheart. She's mine now.'

"I alone know what Bellant has been working on in the past six months. For months this young man—brilliant in spite of his corrupt morals—has been working on a physico-chemical method of obtaining a complete invisibility for himself and all material or persons near him should he so desire. Very apparently he had accomplished his end and has used his discovery to cover his abduction of Alice and his flight to the enemy ship. How he expects to be received, I do not know. I hope he is able to protect Alice against those enemy beings, should they be hostile.

"Give orders for immediate high speed. I will remain on watch until we get into our fourth dimensional speed and are well on our way. We must reach Erb as quickly as possible now. Take every reasonable risk to push us.

"Smith, will you and Jones please take observation positions to guard against destroying any of our colleague's ships? We must arrive at Erb before the enemy sphere does.

"They may do incalculable harm if they arrive long before us."

For the first time the men and women in the earth ship felt acceleration shock, so great was the strain thrown on the ship by the sudden and rapid increase to the highest possible speed.

CHAPTER XI

THE planets of the Polaris system soon came into prominence in the immediate foregrounds of the heavens and as the earth ship flashed past other ships in its mad careen through space toward Erb, the majesty of the three suns of the Polaris system unfolded in all its glory. As the flyer rushed up to the ten planets above, Jameson cut down the speed until once again the flyer was rushing through three dimensional space at a comparatively slow speed.

At last the ship was in the general plane of the ecliptic of all Polaris' planets and turned inward in search of the fifth planet Erb. Off to the left was the farthest flung planet—the outpost of the Polarian space travelers. Now it passed the seventh planet, glorious in its crescent form as it reflected the light of its parent suns.

"Erb! I see it! Slow down—we will have to go carefully to avoid sliding past. We can't land at this speed!"

But even as Jameson spoke, a giant space liner flashed past them headed for the planet. Everyone who could, observed this speeding craft through glasses and telescopes. Onward it fled—in ten minutes it approached Erb. Now it slowed down and swept in a far flung spiral curve, on past the planet and back and around it, ever approaching closer. After swinging completely around the planet three times, each time coming closer, the liner entered the atmosphere and slowed perceptibly, slanting down toward the surface of the giant sphere. Finally it disappeared around the sphere, and apparently landed on the other side.

"We'll try it—more speed." Jameson took charge of the controls, and the earth flyer took a dive into its first big swing in the spiral about the planet.

Erb seemed to spin before them as the space ship spun about the sphere. Down and down they went, at last entering the atmosphere. The ship's hull glowed to a red as it flashed through the air. The interior of the flyer grew very warm and Jameson called for a check in the speed. At last they were over the planet's surface and below them was the great landscape they had expected to see—orange colored foliage with some few sprinklings of green here and there. A group of peculiar buildings flashed beneath them. They whirled over an enormous sea—nearly a quarter the way about the planet this body of water extended.

"The capital!" shouted one of the observers, and all eyes were focused off to the right where thousands of buildings appeared—all colors, tall and round, thousands of them. The ship veered around and sailed over the city in the very middle of which lay an enormous open field on which could be seen hundreds of ships, many of which appeared to be like the earth ship.

Down to this field the men of earth floated, the voyage of three years through cosmic night coming to an end with a scarcely perceptible jar as the ship settled on its pedestal base.

Spontaneously the thirty travelers from earth burst into a cheer and a rush was made for the doors in the lower part of the ship.

Before opening up, however, careful tests were made of outside pressure, temperature, humidity, and atmospheric composition. Though low in oxygen and high in temperature the atmosphere was found to be livable and with great joy the men and women of earth descended to the ground, the first for three long years. The high barometric pressure of the air caused some difficulty at first but soon the earth party was breathing well. The enormous size of the planet caused the gravity pull to be exceedingly large, and it was with great difficulty that the party advanced to the center of the large field where a reception committee awaited respectfully.

Before a word or greeting was exchanged, the Erbians offered strange shoe-like apparatus, and Jameson being the leader, tried these on. Instantly the terrific gravity pull was relieved and the Professor quickly urged the rest to get on a pair.

"Greetings, men of Earth."

Not a word had been spoken, but the message came to every man sharp and clear. For the first time Jameson and his party became aware that the Erbians were much like earth men—the figure was much the same, the size being slightly larger, and although there were minor differences, the bodies of these sons of Polaris were very much like those of Jameson and the rest.

"The star Sol sends Erbians his blessings and salutations through his children, men of Earth. We are here at your call, and come in peace."

Jameson bowed low with these words, not in subjugation but in full recognition and respect of the Erbians.

"The Erbian hears and understands you. He does not speak vocally, but makes his meaning clear to you by thought. Welcome to Erb, and may our planet give you a comfortable home while you are here. Please bring your party to the building yonder. All of your effects will be transferred for you from your ship to your home while here."

The entire party was conducted to a beautiful building to the right of the field, and each assigned to a separate apartment of five rooms. Every room had a special mechanical servant, each of which had been designed to respond to commands of the visitors. Not one of the earth party ever did obtain a full understanding of how these servants were constructed and operated.

At the earliest opportunity a conference was held between the leaders of the Erbians and Jameson with Jordan Blake and a few others chosen to act as executive committee. Immediately Jameson laid before these men of Erb the falsity of Bellant, and the war-like attitude of the fabric sphere beings from the ninth solar planet encountered in space, when Bellant had abducted Alice. Assistance was asked in locating this ship and a warrant for the arrest of the entire crew was issued by Alkad, the presiding officer of the Erbians.

Magnetic messages were relayed to every planet and satellite in the system, including the outpost planet and the penal or corrective satellites, setting watchers on the alert for this space ship. It was apparently the only one made in a spherical shape, for the Erbians had not used such a shaped flyer for centuries of their time. This would make it easy to recognize as most other flyers coming in were shaped much like the earth ship or long and cylindrical. As a final help, ten police ships were ordered abroad to patrol the interplanetary space of the system to try to locate the war-like vessel.

For ten days of the Erbian time (about forty-five earth hours) the earth men were kept busy learning all about the conference next to be held. Twenty days were yet to elapse before the conference of the Universe was to start. Earth men were among the last to arrive as they were from one of the most far flung systems represented in the conclave. Many beings were represented

here on Erb. The surprising thing to the earth men was the similarity of all reasoning beings in the physical form although some were certainly peculiar.

"It seems that the Creator has a very definite set of laws of evolution over his entire cosmic group of Universes," the leader of the Erbians explained at a group conference. "There is a variation in the detail in most cases, but the basic principles are all the same. The animal world, the planet, and the mineral world all go through certain stages of evolution. There will be at this conference almost every stage of the evolution of the three types of life I have mentioned. I will see to it that you all get a chance to see your inferiors and superiors—although frankly, you earth beings are nearly at the bottom of the scale that will be represented here."

"Mineral life! I say, that's new to me," observed Smith to Jameson. "I wonder what such a being would look like."

"Well, I believe it's the key to the life we saw in the fabric spheres from the enemy space flyer. Why, oh, why don't we hear some word of that ship. I tell you I'm nearly wild in spite of my outward calm! What has happened to Alice? Where is she? What has Bellant done with her? Oh, if only these police ships would locate the sphere, I'd go out and get it myself."

The leader, Alkad, continued with his explanation of the stages of physical and mental evolution. It seemed that certain types developed mentally more than physically and others just the reverse. The moral development was largely dependent in the environment and speed of development.

Gradually Jameson lost interest in the very interesting discussion, and at last arose and left the conference. He headed directly for the earth space ship. On his way he was intercepted by a messenger.

"Harry Jameson? The police have sighted the sphere ship you desire to capture. They lost it as it went out of our system. We do not police space beyond our system."

"What types of weapons do you have which I could use myself? Jameson inquired.

He was informed that a special car had been constructed for police duty during this conclave of the Universe. It was just completed with the latest devices for capturing an enemy or for annihilating him. This ship the messenger offered for Jameson's use.

The two entered an air rocket and were thrown high into the upper atmosphere of the planet where the rocket could travel without much friction and at prodigious speed. A three hour flash through the upper air brought them a quarter the way about the planet where they descended and made a landing in a large metal recoil net which eased off the shock of the stop.

A short trip in a surface car driven by a reaction motor brought the pair to the police yards. Here they found the new space police ship. Very small it was, big enough only for three men, but in it were masses of machinery. The whole was not more than thirty feet across.

The ship had several observation windows about the circumference. On six different sides, equidistant one from the other, were six powerful ray projectors—all were paralyzing rays and designed to put out of commission all machinery in the path of the ray. All living material, also would be paralyzed by these rays. Inside the ship was a powerful attractor. Any object which was focused in the field of the attractor would be held fast and hard in any definite position desired.

The mechanism for controlling and driving the ship, as well as the controls of speed, position, a magnetic radio communication with the central station of Erb, and the controls of the rays and attractors, were all located in a large control board directly in front of an operator's comfortable seat. As a crowning glory, a section of the ship was devoted to machinery producing about the flyer a protective shield through which no heat rays or any known rays or missiles could pass. This made the ship impregnable and assured the positive capture of any ship or body the flyer might take after. As to speed, there was no known method for obtaining a higher speed than the police car could attain.

Needless to say, Jameson was delighted. After an hour of instruction in operation and control, he selected two helpers and with no word other than a registration in the police records for outbound space ships, flashed up through the atmosphere of Erb out into the black night of Polaris interplanetary space.

CHAPTER XII

THE Erbian police ship under the hand of Jameson shot out into space at right angles to the plane of the ecliptic of the planets of Polaris. Somewhere in space close about this system lurked a spherical space ship now outlawed by its refusal to comply with the demands of the police ship which had sighted it and commanded it to land immediately on Erb. The task of finding this speck of matter in the vast ocean of dark void seemed colossal to the two helpers in the flyer with Jameson, but the young professor seemed not to realize the enormous chances of missing what he was searching for.

Now the space car swung in a giant arc covering a half billion miles, allowing observation of the whole Polaris system of planets.

After a swing back again, searching vainly over the space on the one side of the planetary plane or "ecliptic," Jameson flashed his car up through the system barely missing two of the outer satellites of one of the planets. Now on the outer side of the planetary system he again began the search for the dot that would indicate the goal of his search.

Three billion miles of arcs in many directions revealed no trace of the enemy sphere.

"Might as well return to Erb I guess," sighed Jameson. "There isn't a sign of them out here. They must have gone a long way out into space to wait for a chance to slip in on some little inhabited planet or satellite."

"Pardon, Professor, but what is that speck ahead of us heading for the outer-most planet of our system? There is very little on that planet but snow and ice—our men there live in air-tight heated buildings."

"Sure enough!—the outlaw ship. All the speed we have, boys! Let's get them."

"Remember your proximity to the planets, Professor. Full speed would put you through the system in about two seconds."

This caution from his helper prevented Jameson from applying too much speed at this critical time and helped to steady him to the task of overtaking the outlaw unseen. With a careful hand on the controls, the police car swept in a vast arc down towards the wee black dot in an effort to approach the outlaw from behind the

planet and surprise it before it could escape. A chase out into space was not what they wanted. Once within a few miles of the sphere, Jameson knew he could apply the force of the attractors and literally drag the helpless enemy to Erb where a full accounting could be had.

At a terrific speed Jameson drove his new car at the planet where they knew the outlaw to be preparing to land. Closer now, almost upon the planet, the police car flashed. With a rush Jameson brought his ship about the curve of the planet and immediately sighted the enemy about to land some thousand miles away. Apparently they observed Jameson's car at the same instant for the sphere of glass-like metal dropped toward the ragged snow-covered mountains of the planet like a plummet—much too rapidly to be safe for the occupants Jameson thought.

"Help watch for them. Use that electric magnifying telescope for me, please," commanded the Professor of his helpers. "We must not lose them among this rough country of crags, caves, and hollow mountains."

Over the spot believed to have been the point where the sphere had dropped to the surface, the police car circled, each of the three occupants searching the landscape for evidence of the outlaw. Suddenly a streamer of brilliant red cut through the semi-darkness of the atmosphere from beneath a rough mountain crag—just missing Jameson's ship by a few feet.

"Whee! That was close. Careless of me to forget our own protection. Turn on that generator for me, will you please?" Jameson spoke quickly and the perspiration stood out on his forehead in beads as the reactionary nervous shock set in. He had certainly allowed his men to come near to death. The heat ray from the enemy would have fused the windows of the police ship easily had it struck home.

With the protective shield about them, the members of Jameson's party proceeded quickly to the attack. Down they dropped and began the maneuvering which they hoped would cause the sphere to make known its exact location. Around the great crags and deep valleys the police car sailed, hoping to draw the fire of the enemy and thus locate the hiding spot.

Once again the red ray flashed out at the police ship and the three occupants cried in triumph as they spotted the sphere of the outlaws lurking in a deep recess between the mountains.

"Fire at them with our paralyzing ray—quickly before they move—over there, see?"

The helpers saw and had the ray in operation before Jameson ceased to speak. The red heat ray of the enemy stabbed out once more, turning harmlessly aside as it struck the protecting energy-wall about the police car. The paralyzing ray sought and met this red ray; a blinding shower of sparkling flashes followed, and suddenly the red ray ceased to be.

"The attractor, quickly—get them as they are and hold them. Sight first and get them in focus; then switch on the current to hold them. I will pilot us back to Erb and drag them with us," cried Jameson excitedly. "Ready—shoot! or they'll escape. There, that's fine. Now, hold on to them."

With a triumphant gesture, the Professor sent the police car speeding up and away in a sweeping arc for Erb, dragging the unwilling outlaw with him. Beam after beam of heat ray, dis-ray, and explosive ray were flashed at her captor by the sphere, all to be turned aside by the protective shield that surrounded the police car.

As they neared Erb, the helpers in the police car held the sphere bathed in paralyzing rays to prevent these outlaws from raying the people or buildings on Erb. Slowly they settled to the ground in the center of the landing field and squads of armed officers surrounded the outlaw sphere, ray guns in hand. At last Jameson appeared from the police car and ordered the enemy ship cut open. This was hazardous for it meant the use of electronic knives and should one of these slip slightly, the occupants of the ship might suffer. Too dear an individual was believed to be in this ship to take great risks, so Jameson ordered very thin slices cut away each time.

As the outlaws observed their ship being cut to pieces, they apparently decided that to surrender peacefully would be the safest course; and before great damage was done, a section of the hull opened and out sailed a sphere bearing a white flag.

"Surrender!" came the command from Jameson, and the sphere with the white flag dipped in recognition and acquiescence.

"Stand by with your air police ready to stop any attempts at escape or reprisals," ordered Jameson to the Erbian officers.

From the spherical ship came sphere after sphere, each bearing a white flag. At last no more emerged and Jameson felt sure all the sphere beings were emerged but somewhere in the ship were hidden two earth people.

"Search the ship. I will lead. One of the spheres must proceed us in our search to protect us from a trap. Please do not come, Alkad. There may be danger and you should not expose yourself. This is our dispute, so let us settle it as best we can."

Jameson spoke to his Erbian friend earnestly and started toward the outlaw ship followed by Erbian police and one or two of his own party.

"Wait! I shall avoid exposing either yourself or my men," Alkad spoke sharply. "We possess a type of machine which will do this investigating for us. Elam," he called to one of his escort and communicated some message to his kinsman. This individual nodded and hurried away on a rocket sled.

"We have just completed a sort of robot which will do this investigating for us. The machine sees, hears, smells, and to a certain limit feels, or reacts to physical touch stimuli. We may note all these things through a separate receiver out here—a sort of radio transmission you would call it. Here comes Elam with the robot and receiver now."

Soon the marvelous robot was inside the ship, controlled from the receiver by electric impulse. Watching and listening at the receiver, Harry Jameson excitedly gave commands for directing the robot. Now they could see through the robot's eyes and hear through its ears the interior scenes and noises of the ship. Down into the body of the ship they seemed to go. A scream reached their ears, and the robot halted, tried the knob of a door near him, and waited for orders.

"Break the door down," came the command, and the robot charged the panel, shattering it to bits.

"Alice!" shouted Harry as the robot's eyes registered the scene before it. Alice sat bound to a sort of chair and over her leaned Bellant, frozen in the act of reaching toward the helpless girl. The sight of the giant robot

of shinning metal seemed to paralyze him with fear.

"Harry is outside to rescue you. He will kill your tormentor," Jameson heard the robot enunciate with difficulty to the man and woman on whom its electrical eyes gazed.

"Quick, have the robot seize Bellant before it is too late," shouted Jameson to the operator at his side.

The robot strode one step forward, and then hesitated. The operator at Jameson's side asked quickly which Bellant was—he did not know and had had to hesitate to find which the robot should seize.

"The man—please be quick," replied Harry in anxiety. Too well he knew what might happen.

Apparently Bellant took the situation in clearly at the outset, and seeing the robot hesitate, he stepped back to a table, picked up something, and with a throwing movement, stepped quickly close to Alice and stooped toward her, arms outstretched.

Even as Harry saw this and cried out the pair of humans before the robot suddenly faded from view—vanished completely.

"Bellant's invisibility robe," gasped the young astronomer. "Move the robot forward quickly. Follow any trail of violet luminosity. Bellant is escaping with Alice!"

The operator of the robot seemed nonplused and failed to comprehend Jameson's full meaning. Instead of moving the robot forward instantly, he turned to Harry for further direction.

"Quickly!" groaned Jameson. "Rush the robot forward, arms outstretched. Follow any violet colored trails in the air. Oh, please act—do something!"

The operator jumped into action and the robot ran forward, arms outstretched. Despite turning and mad rushing about the room, not a single solid object did the robot encounter.

"It's too late. Bring the robot out here. We'll have to search for Bellant somewhere else. He is gone with Alice."

At the moment out from the sphere came a rapidly moving air sled with apparently no one on it. Behind the sled a violet haze streamed. Not an individual noticed this until the sled was well launched into the air and streaking away at an ever increasing speed.

"Police! After that sled!" commanded Alkad as he indicated the rapidly dwindling form of the sled.

Instantly a dozen special speed sleds flashed up and streaked out after the fugitive. Alkad and Jameson flung themselves flat on a new sled and the driver applied the power. With a scarcely perceptible thrust, the sled carried its passengers forward at a speed unknown in earthly atmospheric travel. Alkad estimated for Jameson that they were traveling at a speed of about five hundred miles per hour.

"We'll overtake them shortly. There isn't an air sled made that can equal these in speed," Alkad commented. "See the police ahead of us? They'll catch your man for you."

The fugitive sled was again in full sight as the police sleds gained on it, and Jameson leaned forward as if to help the sled along. Closer now they swept, the air screaming past their windshield with a shrill note. Ten minutes chase brought the police sleds upon the fleeing vehicle and as Alkad's conveyance pulled up over it, the cordon of the law drew tightly about Bellant.

With no warning whatever Bellant literally dropped his sled on a steep decline toward the mountainous region below them. Immediately the police dived after him, but the sudden change in direction of Bellant had caught the police sleds unawares, and they were miles past the spot Bellant first dropped before they could bank on a turn and drop quickly after him.

By the time the pursuers were well down on their descent, Bellant's sled was down among the peaks. With unbelievable skill the fugitive zig-zagged through the crags and peaks of this rugged range covered with the stubby orange colored growth of dwarfed trees. The sleds of the law rapidly dropped toward the sharp peaks and the great gorges below.

The foremost police sled dived almost vertically into a great gorge into which Bellant had sped. Rapidly the pursuer gained on Bellant. Now he was over him, apparently ordering him to halt. An instant later a flash of jagged lightning bolted upward from Bellant to the sled of the law. With a loud detonation the pursuing sled, officer, and machinery disappeared.

With the flash of the detonation, Bellant's sled dived into the shadow of the deep canyon below and disappeared.

A full hour's search by all the police cordon failed to reveal a trace of the outlaw. A conference down in the cool depths of the great gorge led to a decision to return to the city. The whole fleet rose as one and streaked away through the blue of the Erbian sky.

CHAPTER XIII

ON return to the city at last, Jameson took time to observe what surroundings he had on this new planet. With the assurance of Alkad that not a moment should elapse without a police cordon on the search for Bellant and Alice, the young astronomer gave his attention to the coming conclave, mainly because he felt it a duty.

There were representatives from over a thousand different systems. Many forms of organic life were represented. The earth representatives were about the lowest in the scale of the animal life represented and from the earth man, the type went on up, some individuals being highly developed mentally—eons ahead of earth men—and some developed physically to the highest degree.

The intellectual giants were very similar to the earth men in appearance, although their reasoning power was beyond the comprehension of the earth men. The physical progress in animals had resulted in all sorts of odd developments. For the most part the body was smaller, and the appendages were much shortened and all useless parts were eliminated. The head had enlarged in most cases and the appendages of locomotion were nearly gone because of the lack of use as the beings developed mechanical locomotion to a higher degree. Plant life was represented as well as the animal. Over a hundred of the guests of the Erbians were of plant origin, although the men of Earth soon learned that distinctions between plant, animal, and mineral life were really matters of degree rather than kind. Most of the plant life used a rolling motion of the body to propel itself from one place to another. The bodies were of regular cellulose structure but highly complex, with many special tissues never found in earthly plant life.

Very prominent among the visiting types of life were the "mineralites" as Smith soon dubbed them. These

were individuals whose body was composed of crystals of minerals. Most of the higher types were built up of thousands of minute crystals of many colors, glowing with light as a rule. Presumably the individuals multiplied by enlarged growth and division or in the same general fashion as the earthly hydra reproduces —by simple "budding" of a new individual at one part of the body.

As Jameson and his party were conveyed about by Alkad and his men, they were shown many delightful pieces of cultural art—drawings, pottery, and even sculpture work.

Soon they were conveyed to a part of the planet where the sciences were studied and because of their interest in astronomy, Jameson and a few of his fellowmen were shown the electronic telescope through which Old Sol and the nine planets and asteroids had been detected.

Not alone were there great physical, chemical, and biological laboratories but in as great proportion the Erbians had schools devoted to the study of psychology, of geology, and of the general best ways of living. They made a slave of their science whereby they provided by its means the necessary machines, robots, and electrical and chemical devices to completely free them of all drudgery and necessity for "making a living." Everyone of the Erbians had a chance to select a branch of intelligence he liked best, while going through his preliminary training, and after his general education was complete, he devoted the rest of his life to the problems found in his field.

"Here," said one of the guides during a trip through one of the advanced chemical research buildings, "is a department devoted to the study of the constitution of all matter. We believe everything is made from one initial material—perhaps energy. We are attempting to trace matter back to the beginning. Our greatest minds believe they are reaching a glimmering of the truth. While we never expect to lift the veil of mystery surrounding creation, we do expect to be able to deduce something of what is beyond the veil by the manifestations of that beyond, which come to us as creations."

Here was a very good sample of what the earth men found most of the problems of Erbians to be—almost beyond the limits of their imaginations. Jameson and his mates quickly divined that the little they knew of all knowledge was as nothing compared to the least intelligent of the Erbians.

"I would like to inquire about the organic individuals you sent to Earth in the cylinder you sent us. They are a species found here?" Jameson put his question to Alkad.

"They were a type of intelligence which we developed for our own use. Literally they are organic thinking machines. Doubtless you of earth possess mechanical thinking machines—(calculators, slide rules, integrators) which take much of the dry everyday grind out of your complicated calculations. Just so do we have thinking machines, except that ours are organic and have a partial intelligence of their own. We developed this type of life to aid us in the more simple lines of thought. The thinkers may be educated to function in almost any intellectual field. Those sent to you were specially educated on space navigation, and all the necessary mechanical and electrical knowledge necessary for this trip you have made. To be quite frank, we consider the thinkers to be capable of quite as much real intelligence as any of you earth men. The difference is that you are able to cover many fields while a thinker is trained in one field only."

"May we take a trip over the Polaris system of planets before the conclave begins?" requested Jameson.

"Certainly. I will give you a guide and you may use your own ship. You will be allowed to land on every planet except the innermost of our system. The electronic equipment there is too delicate to allow anyone to come closer than ten thousand miles unless specially trained in that field. Our specialists spend centuries in study before they are allowed even a preliminary visit to the power-sphere as we call it. Elam, will you conduct the Earth party and ship about our system? Return in fifteen days. We shall then begin our conclave."

With no more ado the party returned to the space ship in which they had come from earth and began the tour of the system. For many days they went from planet to planet, visiting the more interesting parts of each, until at last only the outermost planet remained. This was the planet which was so cold and on which Erbians existed only when protected by great heated dome buildings. It was only after much persuasion that their guide took them to this faraway place. Fortunate it was that the Earth men insisted on seeing this ice-covered sphere for had they not, Bellant would doubtless have remained at large for all time.

As they descended on the planet, guided by Elam's direction, they were able to look down into one of the great glass-domed buildings, and were surprised to see there the great glass-like ball of the space ship owned by the sphere bodies from the solar system. Guided by Elam, the Earth ship dropped carefully through an opened dome and after closing the dome above them, attendants in the form of mechanical robots guided the ship to one side, and anchored it securely. Opening great ovenlike heaters, the robots warmed the large building up to normal again after the penetrating cold of the outside. When air conditions were adjusted and the temperature was endurable, upon a signal from a small house at one side, the robots opened the flyer to allow the Earth men to emerge.

An Erbian came from the small house to greet them. Immediately upon questioning by Elam, the Erbian admitted he was housing an unregistered space ship in another building, but said the ship had claimed to be coming into the Polaris system from the Solar system —had wished to stop for repairs and supplies. He immediately agreed to conduct the party to the other building where Jameson felt sure he would find Alice and Bellant.

Before boarding a peculiar platform with the earth party, the Erbian gave directions by a telepathic thinker that the spherical space ship and all occupants were to be held till he arrived. The thinker, it seemed, was a specialized telepathy unit and could easily transmit a message or mental image to a similar thinker in the other building. With a final direction to a second thinker, the Erbian boarded the platform and announced that they were about to go into the fourth dimension for a brief interval. In that dimension they could safely and easily go "beyond" the intervening rock and ice into the other building just as an airplane can easily go "over" into a field surrounded by a very high fence. The plane needs only to rise from two dimensions into the third dimension, travel over the obstacle and drop down safely

on the other side back into the second dimension. Solid objects offered no more resistance when traversed in the fourth dimension than a fence offers when hurdled by means of ascent into the third dimension.

Each one held his breath as the platform started to move. There was only the sensation of a sort of slipping motion—no particular direction, but each felt he was moving somewhere. Then the solid walls, rock, ice, and snow all appeared to be half transparent. It was as though they were looking both at the solid objects and inside them at the same time. The whole scene, from the earth space ship clear to the enemy sphere ship, was plainly before them, including all the rock and ice between the buildings.

With a swirling-like feeling the earth men came to a sudden slipping stop and once more the walls were solid and the building opaque.

Immediately Jameson sprang to the floor and started for the enemy spheres. He was stopped by the Erbian in charge of the great domed building.

"You will wait until your guide advises me as to your status here," the Erbian communicated.

"We are here to arrest those individuals in the sphere ship. They are outlaws. Why haven't you notified Erb of this? The police have been looking everywhere for this ship—haven't you had the messages?"

The Erbian conferred with Elam and it was a very serious group which approached the silent sphere ship of the outlaws.

"Bellant, come out and bring Alice with you," Jameson called loudly at the open door of the space flyer.

There was no response for a moment, and then the door of the ship flew shut suddenly, the ship rose quickly, and after circling a moment headed directly for the glass dome above. If it struck the great arch and broke through, all in the room below would perish from the sudden chill of the outside atmosphere. Besides that, tons of glass would shower down on them, cutting everyone to ribbons. There was no time to run for shelter—the sphere ship was half way to the top and ever gaining speed. Twenty seconds and it would crash through the dome out toward space. The Erbians both shouted aloud, saying a certain set of vowels quickly.

Instantly in response to the vocal call of the Erbians six great robots about the building flashed into action, stepping to a beam transmitter as a man, throwing the power switch, and training the ray on the escaping ship in less time than it required to shout the command.

The fugitive swirled drunkenly about and careened to one side but continued to rise, ever more slowly. The rays had paralyzed the machinery and any life in the sphere. Still the ship rose, and the men below became anxious for fear the big ball would crash through the dome from the momentum it had gained. At last the fatal second came—would the dome hold against the impact of the slowly moving ship?

With a resounding crash the big glass-like ship struck the dome top and rebounded as a rubber ball from the snap of the elastic give in the dome structure. A shower of fine glass rained over the rebounding sphere and slid off to flitter down to the floor. Only a few individuals were cut and so great was the joy at the capture of the outlaw that no one minded the slight injuries.

The Erbian in charge immediately dispatched a dozen robots with glass squares to repair the damage done to the dome, and with a powerful attractor he pulled the sphere to the floor. The door was pried open, and inside went Jameson and half a dozen others, ray pistols in hand.

Strange to say not a sphere body could be seen. Later, they learned that Bellant had stolen back to the landing field on Erb and appropriated the space traveler without permission. A long search disclosed Bellant with Alice in a tiny cubby hole at the base of the ship where he had hoped to escape detection.

"Come out, Bellant," ordered Jameson, and the subdued physicist obeyed without a word.

Turning the culprit over to two of his men, Jameson picked up the unconscious form of Alice and tenderly carried her outside. It was with great eagerness that Harry waited while the Erbian administered a stimulating drug to bring Alice out of her unconsciousness. A full ten minutes elapsed and the first faint fluttering of her eyelids brought Harry to her side.

"Darling, are you all right?" the young astronomer cried. "It is Harry—you are safe at last. No longer shall Bellant torture you. Speak to me, dear."

The girl tried to speak, but only made strange gurgling noises. Another attempt brought better results. Alice whispered that she was only very weak from lack of food and water. It seemed that Bellant had failed to lay in a supply of the two necessities before making off with the sphere ship. As the sphere bodies were mineral in nature, they used no organic food and very little water.

Despite Jameson's protestations, Bellant was placed in a room by himself and left unpunished for his gross misdeeds. The Erbian did not understand physical punishment and so did not feel that a good whipping might be efficacious. After making all arrangements for a return of the sphere ship to Erb, the entire party returned to the earth ship *via* the fourth dimension and made ready to return to Erb.

The return was uneventful and although Harry's fingers itched to get at Bellant, Elam saw to it that the two men stayed apart. At a trial later, Bellant was convicted of gross misconduct and was sentenced to ten years' study of social behavior under a guard. It was later decided to return Bellant to earth when the party set out on the return voyage.

The fact that no more trouble was encountered with Bellant proved that the fellow was pretty well subdued.

CHAPTER XIV

At last, able to devote his entire energy to the object of the voyage to Polaris, Jameson plunged into the conclave and the meeting of all the various delegates from all over the Universe. Literally hundreds of individuals were brought together there, each a little different from every other one and some vastly different from the earth men. Among the more unusual types of life were beings whose bodies were so far advanced in evolution as to be nothing but a brain, carried about by mechanical servants. These peculiar fellows came from the very depths of the Milky Way. They had been making a tour of the Universe when they stopped to visit the Polaris planets. They represented as high an intelligence as could be found, the earth men were told. Strange as it seemed, they were the ones with whom it was easiest for the men of earth to communicate.

Month after month passed and ever new and more marvelous things were revealed to the earth men. Their store of knowledge was rapidly becoming too great to be useful—literally thousands of the marvels of chemistry, biology, and physics would be hundreds of years ahead of the people to whom the delegates of earth would return. Much of the knowledge would remain only as records until the intelligence level of the average man of earth rose to a point where such information would be of value. Much of the more intricate reasoning and information passed about at the conclave simply passed over the heads of Jameson and his men—they did not have the experience to enable them to grasp what was going on. Many of the more miraculous feats of intelligence displayed at general meetings simply didn't register with the earth men. The operations of mind on these higher levels meant nothing at all any more than a complicated calculation of marvelous radio apparatus would mean anything to an African bushman. Very quickly Jameson learned that to understand a thing, some part of it must fall within his previous experience so that it could be recognized at least in part.

The months rolled on, each one adding to the store of knowledge and the volumes of notes which were all to be taken back to earth. The delegates to this conclave had agreed upon a meeting once every period of Erbian years, which amounted to about a century of earth time. No one on the visit this time from Earth would ever meet at the conclave again, but with the secrets of prolonging life, the Jameson party hoped to impart to the new generations of earth many times the usual three score ten years allowed man for his span of life.

Important points of universal law were decided upon, and visits between planetary systems were arranged. The earth men were scheduled for a visit to Alpha Centauri ten earth years hence—and in the meantime a group of Erbians was to visit the Solar system to see what could be done for the general betterment of the inhabitants of the planets there.

All war between systems was banned as a matter of course, and a court of judgment was set up for settling disputes arising between parties in the same system. As a special recognition of the efforts of earth men, since they were the intellectual babies in the conclave, the Solar system was chosen for the next conclave a century hence. Many a conjecture was made as to just what progress mankind could make in the century before him, until he became host to the Universe.

After a year and a half of Erbian time the conclave proper broke up, and a large majority of the visiting delegates boarded their ships, sealed their doors, and sailed away into the sea of space toward their respective homes. The delegation from Earth was to remain, however, and after all but a few of the visiting parties had gone, plans were laid and put into use to educate the thirty members of the party from Earth.

Day by day the earth men learned what the marvels of raw energy were and how to obtain the energy directly from the molecular forces holding matter together. In this Bellant went farther than any of the rest of the party, since it was his field. Strangely he and Jameson became more intimate in their relations than ever before, but through it that feeling that the other was an enemy ran, and each was constantly on his guard.

The day came when the earth party was to see the Solar system through the marvelous electronic telescope of the Erbians. They were all to be well versed in cosmic geography before the lesson was finished. Since Jameson was the leader of the party, he it was who first glimpsed the tiny ball of fire and the nine planets and hundreds of asteroids faintly visible about the central sun. Fortunately for the observers, the plane of the ecliptic of the Solar system is nearly at right angles to the polar axis of the universe as indicated by men of earth. This made the observer on Polaris look down on the Solar system from above the plane of the ecliptic, and observe the planet bodies circling in their orbits about the sun.

There, before the party, the scene was gradually developed after Jameson's initial observation, and shortly there appeared on the big screen a shadowy picture of a small ball of fire and spaced about it were wee points faintly luminous, each representing a planet. The asteroid belt appeared to be a faint circle of light, placed at the fifth position of Bode's numbers.

Jameson's mention of this caused the Erbians to inquire what this Bode's numbers might be.

"It has been observed that the planets and asteroids are distant from the sun at intervals which seem rather regular and correspond roughly to 4-7-10-16-28-52-100-196-388," explained Harry in best astronomical style, "but we are about convinced that this relation is entirely accidental and has no real "law" as Bode would have it. The distances and numbers get entirely out of gear as we go from the inner planets (the first four about the sun) to the outer or major planets."

Much investigation followed and the men of earth learned a great deal about the Solar system that had never even been suspected by earth men before. The Erbians believed that all planets of Sol, with the possible exception of Mercury, were inhabited by living beings—not all like men but some sort of life. They pointed out some of the types of life exhibited during the conclave, and showed where the mineral beings could easily live on Jupiter.

"But the major planets are all excessively cold," Alice interrupted. "They all range around 170 degrees below zero Fahrenheit. All water would be ice. Even the clouds we see about these planets are probably clouds of condensed carbon dioxide."

The discussion waxed warm, and to the Erbian's delight, men of earth actually argued some of the Erbians off their feet. This pleased the Polar men and with renewed vigor the education process was attacked.

At every turn Harry and Alice were together, learning side by side. Always in their shadow Bellant followed. He made no effort to interfere, did not annoy the girl, nor did he bother Jameson. Notwithstanding, Jameson kept very close watch and for over a year the guard he kept over Alice was vigorous and attentive. Since all of Bellant's equipment and apparatus had been taken from him, the girl no longer feared the invisibility cover with which Bellant had formerly captured her; she actually enjoyed an occasional tiff with Bellant in their intellectual clashes during study hours.

Three years had passed and still the party from earth studied. The whole of the Erbian race was immensely proud of what they had contributed to the education of these thirty inferior beings from the far away Solar System. Not alone in the scientific fields had the party been thoroughly trained and advanced, but in sociology, religious life, the ways of living, and general government. By this time each and every member of the earth party

was as an intellectual giant compared to other earth beings. Especially had Bellant progressed in physical studies. His knowledge of electricity and raw energy was astounding even to the Erbians. It was whispered that perhaps he knew *too* much! What use would he make of his knowledge? He had proved a rascal twice before—why not again?

How much truth this whispered fear had in it they were to find out all too soon.

As the fourth and last year of their visit drew to a close, the men of earth began to turn their thoughts toward home—yes, even that germ-infested, dirty, striving old world, Earth, looked very good to these children of Sol for after all, a few years cannot basically change human nature. The women in the party, for all the marvelous things they found to do on Erb where everyone was a part of society and no sex distinctions were made, were frankly homesick. The Erbians could scarcely comprehend this, but after thinking upon a subject, rightly concluded that even with all that man had learned on his visit with them, he was in principle just a high grade animal with a rising but not "risen" intellect.

From this time on the party became more restive and after many attempts to get full attention to further studies, the Erbians wisely concluded that earth man's cup was full, and that more intelligence poured therein would simply run over the sides to waste. With regret, for every teacher likes to impart his knowledge to the fullest extent, the great leader, Alkad of the Erbians, made a lengthy speech of appreciation for the attentive and willing attitude of the earth men while visiting Erb, and informed them that the Erbians wished them Godspeed on their return voyage which would require another three-year period of cosmic travel, back to the Solar system.

This polite but welcome dismissal of the earth men was met with open welcome by the entire party. After conference, Jameson delivered a return address expressing the lifelong thanks and appreciation of the men of earth for all the wonderful knowledge given them by their beloved brothers and benefactors, the Erbians. Thanks were given for the original invitation to come to Polaris and for the books of knowledge accompanying the invitation.

Full energies were now turned toward the reconditioning of the space ship and all kinds of supplies were laid in for the return voyage.

A trailer ship was designed and attached for carrying specimens, special machinery, volumes of notes, and greatest of all, a few individuals from various systems who agreed to go back to Earth. The sphere-bodies from the ninth planet of Sol were to return to their home and the Erbians urged that the two ships join company, allow themselves to be fastened together, and return to the Solar systems as brothers.

With great misgiving Jameson and his leaders agreed. Bellant was especially agreeable to this plan. Later, we learned that the idea was suggested by Bellant.

As a crowning glory, Elam, the guide of the earth party, while in the Polaris system, asked to be allowed to go back to Earth with the party. Naturally, the whole party was overjoyed, for they not only admired Elam, but loved him as a brother.

Preparations were finally completed, the earth ship and the glass-like spherical ship of the sphere-bodies were firmly fastened together with a communicating door between, and the loaded trailer ship was attached to the base of the earth flyer. With final farewells, many heartaches, and promises of an early visit from the Erbians to Earth, the three-ship unit rose slowly from the sphere, Erb, sailed up vertically to the plane of the ecliptic of the Polaris planets, and with an ever increasing rush, streaked out into space with twenty-nine hearts bent on a quick return to Earth. Only Bellant was not quite ready to land on the earth—not until he had complete control of plans he was even then laying for his great "coup." Could Jameson have looked into Bellant's heart at this time, he would have severed the ships instantly and thrown Bellant into irons for the rest of the voyage.

CHAPTER XV

SHORTLY after the homeward start, Elam called for a general meeting. Here he brought forth a plan for making the voyage back to Earth seem much shorter.

Standing on the table amid the group, he demonstrated a synthetic drug much used on Erb for producing temporary slowing down of all bodily functions. With it he showed a drug for relieving this condition. Upon calculation it was found that one injection of the drug would hold a man in a sort of suspended animation for a full year. At that time it was deemed advisable to revive the individual and recondition him physically. The body very slowly wasted away during this period as it was used for food—only a minute amount of energy was required to keep the body alive in this condition. The subject retained a hazy consciousness during the entire time with periods of natural sleep.

It was agreed that most of the party should be placed under the influence of the drug. Jameson was to remain on guard, keeping things in order. The rest of the party would be brought out of their sleep-like condition every year for a month.

The injection was continued until all but Jameson, Alice, and Bellant were placed in their beds. Elam's approach to Bellant was met with a stone-wall resistance. The physicist not only desired to remain awake, but insisted that he be let alone—he had much to do on his notes, he said, and there were many experiments he wished to conduct. Although a bit worried by this, Jameson agreed, with the warning that on no account would he tolerate any treachery. Bellant's only response was a rather faint smile and an all-enveloping look at Alice. Elam noted this and, remembering the man's history, determined to keep close watch on Bellant.

With Alice placed under the drug influence, there remained only Jameson, Elam, and Bellant about the ship. These three had their meals together and one remained on watch while the others slept. The time dragged. While each had much to keep him busy, they all longed for the time when the rest of the party would be revived.

Bellant worked in his shop incessantly, behind closed doors. He even refused to admit Elam, while he was working, insolently telling Elam that he wouldn't understand anyway. This was the first insult that Elam had ever had, and he went to Jameson to get its full meaning. When Jameson translated the statement, the Erbian boiled with a rage he had not known in his whole life. He was absorbing a few of the traits of earthmen in

spite of himself. It was only by very sharp disciplining that Jameson prevented Elam from going right back to attack Bellant. How very primitive, for an Erbian, Jameson pointed out.

Without further word Elam went to work in his laboratory aboard, and remained very secluded for the balance of the first year. It was only when the year was up that the two earth men saw what he had been working on.

Coming from the laboratory with Elam, one bearing a flask of the drug which relieved the state of coma of the sleeping passengers, and the other holding an injection needle, were two very strange looking organisms. They stood about four feet tall, had an eye, a nose, an ear, and a sort of long snout, all arranged on the top of the body proper. There were four arms with four very supple tentacles for fingers, and for means of locomotion each had a wheel on which he rolled along. The wheel was part of the body and had a sort of "tire" of cartilage about it and was centered on a ball and socket joint of bone! They were flesh colored and hairless. Each seemed to balance perfectly on its "wheel-foot" as Bellant called it.

"Meet my new servants, gentlemen," commented Elam as he came forward. "The one with the flask is called Tick, the other Tock. I name them so because they are designed to respond to those names only. I have heard some of your party refer to a certain Tick Tock who is, I presume, some one of importance on your planet."

The two earth men roared with laughter and when Jameson explained who Tick Tock was, Elam joined in the laugh.

"But where did you get them? I am sure you didn't bring them with you," said Bellant.

"No, replied Elam, "I grew these right here on board in the past four months. You will remember that I brought a great number of containers of organisms with me when we left Erb. I have put these together and so controlled them as to grow these servants. They have brains, too—but not too powerful ones. As you know, there are two parts of all animals which control kinds and extents of growth in them. The chromosomes with their genes and the glands of the body, mainly the so-called 'ductless glands.' To make a complicated matter simple, I simply alter the genes in the chromosomes to get the different traits I want brought out, and control the glands chemically to promote or retard growth in different parts of the body. It's a matter of control in both kind and extent of animal growth.

"Let us bring the party out of its sleep and feed them —they will be rather thin by now."

After much work, the entire party was revived, and each declared he had been but dozing a few minutes. However, a glance at the constellations proved to each that he had indeed been dozing a long time.

For a month the party ate and slept normally, enjoying life immensely. Then the entire bunch was returned to the state of coma, and this time Jameson went under the drug too. His assistant, White, took over the duties of the ship and with him Alice stayed awake. She knew a great deal about Jameson's plans and was able to help White enormously. Again Bellant refused the drug, and again Elam tried to find out what great problem was occupying Bellant so continuously.

Bellant had become so busy, that he asked to have his meals sent to his workroom. Alice was indignant at first, but on the advice of Elam she simply awaited developments.

Elam was elated. This was just the chance he wanted. When asked, Bellant readily agreed to have one of Elam's peculiar animal servants bring in his meals. Little did he realize what that piece of flesh could be trained to do.

Day after day Elam spent with his servant, altering the internal structure and training it, hour upon hour. After a month the servant became more alert, and several times Bellant noted the animal looking carefully about. For some reason Bellant did not suspect that the animal could have intelligence. Perhaps it was the appearance of the thing—just a hairless bunch of flesh, apparently.

Far from the dumb animal it appeared to be, however, the servant was observing, and each day, when it returned from Bellant's laboratory, it recorded what it had seen. Every day it drew plans, duplicates of what it had seen in Bellant's rooms. Soon Bellant became too engrossed to note much of what the servant did. The animal took to making Bellant's bed and straightening up his drawing desk. It cleaned the floors—did everything a good servant and valet could do. Bellant came to depend on it greatly.

All this while Elam was assembling copies of the notes and plans that Bellant believed to be his alone. Soon the servant began to draw diagrams of complicated electric machinery Bellant was actually building, and Elam built them too, studying carefully each part for its purpose. Gradually a glimmering of the truth came to him. How he wished it possible to take by force the thoughts from Bellant's mind, but long ago the Erbian had found it impossible to read the thoughts of an individual unless the subject willed it so. So much of the guess work he was speculating on could Elam certify, if only he were able to delve into Bellant's mind.

Month after month passed, and finally Bellant became less seclusive. He took his meals with the others again, and was more jovial. At Elam's suggestion, the servant was still detailed to clean up and tidy Bellant's room. Soon Bellant began to spend a great deal of time in the base of the ship where the great driving mechanism was. Several times Elam surprised the physicist as he was meddling with the wiring of the great blue globe and the green disc. Each time Bellant explained that he was trying to get in mind exactly how the ship was propelled, and Elam believed it—for that was exactly what Bellant was doing—learning how the mechanism worked.

Elam's suspicions now became practical certainties and once more he became a recluse in his laboratory. Every few days he would return to the company of the rest of the people, each time spending every minute he could looking at Alice. This annoyed Bellant considerably as he felt that here was a new contender for the beautiful girl's favor. He questioned Elam closely about what occupied him so much in his lab, and each time Elam replied that he was growing a new type of servant. This was really the truth, although the servant was not quite what he led Bellant to believe it was.

The second year came to an end, and once more the whole party was awakened and fed well for a month, and again placed under the drug influence. This time Alice went too, and Jameson remained conscious to complete the journey now well on towards the end. They

had made better time on the return, and the trip would be shortened by about three months. That meant that only eight months were left. Jameson was jubilant—he intended to make short work of disposing of Bellant once on earth, and then he and Alice could have that home they both wanted. Had he known the short but terrific struggle they would go through by that time, he would have forced Bellant into using the coma-producing drug and cut loose from the sphere ship attached to the earth flyer.

A month later Elam's servant began to report clandestine visits of Bellant to the sphere ship. It had been agreed to remain separate parties throughout the voyage. This was a breach of faith, both on Bellant's part and that of the sphere-bodies. Again Elam's fears were being confirmed, and he redoubled his labor in his work shop. One day he was finished, and confided to Jameson that he had a masterpiece finished, but that no one was to see it for some time; he would, however, show it to Jameson first.

Following this, Elam suddenly decided that the three men—Bellant, Jameson, and himself—should make a tour of the rooms to observe the sleeping passengers. It was so arranged, and the three made the tour, giving each party a thorough inspection as to general health and room conditions. All three being interested in Alice, it was not surprising that they lingered rather long in her room. Elam pointed out how healthy the girl looked, and how curly her hair was—a rather odd thing for him to do thought Jameson.

The next watch, when Elam alone stayed on guard while Bellant and Jameson were supposed to be asleep, a shadowy figure stole down the corridor to Alice Baldwin's door and slipped inside the room. A moment later the shadow reappeared, one arm full of some soft cloth-like things—possibly clothing. Stealing back the corridor, the shadow slipped out of sight for about five minutes and then reappeared, bearing in its arms something very large and bulky. It staggered a little as it fled down the corridor a second time, stopped at Alice's door, looked hastily about, and melted from sight into the shadow of the open door. Two minutes elapsed and again the shadow slipped out into the darkened hallway, apparently bearing the same large bulky bundle in its arms. Again it hurried up the corridor, and silently turned down a side hall. A footfall sounded from below, and the shadow made a dash for its room, popping inside and clicking the latch just as Bellant came into view.

The physicist had heard the swish and the click of the latch, and stopped dead still a moment. Using his flashlight, he picked out Jameson's door, and without a knock of warning, flung open the door and stepped within, throwing his spotlight on the sleeping form of Jameson. Without a doubt the sleeper had not moved for some time and was genuinely startled when Bellant aroused him. Satisfied that it had not been Jameson whom he had heard, he mentioned the incident and together they went in search of Elam, whom they found in the observation room making some calculations as to their speed, position in space, and so on.

"Have you been here long?" inquired Bellant sharply.

"Ever since I left you at your room," replied Elam. "Why do you ask?"

"Could you prove you have been here all the time?" Jameson queried. "Some one was just through our corridor, and it was neither of us. Sure you weren't?"

"You must be dreaming. I'm sure I've been here for a long time. I think you're working too hard, Jameson. I am sure you don't get enough sleep, Bellant," commented Elam. The last statement carried double meaning, but it went over Bellant's head entirely.

"Well, it's mighty funny. I swear I heard a rustle and then the click of a latch. You are sure you weren't back then for anything, Elam?"

"Bellant, he has already told you he has been here since he left us," Jameson said with some heat. For all his admiration of the physicist's knowledge, in Jameson's heart smouldered a mild hate for this fellow.

The incident passed and no more was thought of it—at least not for a few months.

Once again the three men made a tour of the sleeping passengers, and each was found to be exactly as before. This time it was Bellant who commented on Alice's beauty. He and Jameson agreed that, if possible, Alice was more beautiful than before.

"She seems to have more color today, and her hair seems more flaxen than it was," Jameson noted and Bellant agreed. Elam looked on, and said little. For some reason Elam had this time advised against a close examination of the passengers and so the tour was soon complete.

CHAPTER XVI

BY now the Solar system was quite visible and by means of high power, the telescope revealed the entire system with its nine planets, the asteroids, and the central sun. It was when the ship was within a week of the Solar system that the blow fell. Jameson was on guard, and Elam and Bellant had been at rest for some time.

Without warning, while Jameson was making some pencil sketches of the Solar system through the telescope, the planets and sun slid off to the left, leaving the field of the instrument. Jameson was nonplused for a moment and then grasped a small hand instrument, caught the star, Sol, in the field, and was amazed to see the whole system apparently swinging away to the left. For a full minute he was speechless; suddenly the truth dawned—the Solar system was not veering to the left, cavorting off through space—*the earth ship was off its path!* Frantically Harry worked with the controls, all to no avail. The ship simply would not respond, and every minute the course away from Earth was widening and swinging away into space!

Down to Elam's room Jameson raced and burst in on the sleeping man. Quickly he related what had happened, and Elam came rushing up to see for himself. By now they were headed way out into space, the Solar system behind to the left.

"Now do as I say. Find out if the sphere ship is still attached to us, and report to me immediately," Elam commanded, and as Harry hurried away, the Erbian darted to the workroom of Bellant. The physicist was gone, and so were all of his effects. Even the machines he had been building lay wrecked and shattered. Elam slipped quickly into his own laboratory, closed the door, and made several rapid adjustments of dials and switches. Rapidly he made the changes, hesitated to see that they were correct, and hastened back to the observatory just in time to meet Jameson as he came in.

"It's gone! The whole ship is gone—cut away slick as a whistle—only a scar on the outer shell shows where they were. Say! You don't suppose—I'm going to see!"

The words tumbled from Jameson as rapidly as possible.

"You needn't—he's gone. I just looked to see," said Elam. "All his notes, clothes, and delicate apparatus are gone, too. He is in the enemy sphere and it is his diabolical knowledge of electrical apparatus that is forcing us off our path. Let's have a look at the machinery of this ship."

The two men rushed down into the machinery room, and were shocked to find the whole blue ball a-crackle with brilliant white sparks.

"The infernal pup," shouted Jameson. "He means to drive us clear away from Earth, never to get back—but why?"

"Can't you guess, man?" Elam yelled above the crackling noise.

"Alice!"

Harry nearly screamed the name and bolted away for the girl's room. Not waiting to open the lock, Jameson crashed through the panels of the door and stood horrified—the bed was empty, and all the wardrobe of the girl was gone—even to toilet articles.

With a hoarse cry Jameson rushed to the observation room. Still they were veered away from old Sol, large now before them. Again he tore at the controls, and again the ship refused to respond.

"Will you avenge your sweetheart? You are doomed to travel throughout all space till you collide with some wandering body which annihilates you."

It was the voice of Bellant, and as Jameson looked about, he spotted a new loud speaker in the room. Beside it was a television screen.

"Yes, it is Bellant speaking. You see me now? I am in the sphere ship—the one you call your enemy. Well, try to get at me now."

A long laugh followed, and Jameson bounded across the room to demolish the screen where Bellant leered at him. Elam stepped in just in time to save the apparatus.

"Let me alone—damn the beast—he has Alice. Let me at him!" roared the maddened man.

"Be calm, Harry. That is only a television screen. Listen to Bellant; perhaps we can discover a way to check-mate him," Elam reasoned.

"Yes, do be calm—but you'll never check-mate me—you are checking out. Here is someone you will be glad to see—for the last time. See her?" and on the screen appeared the image of the sleeping face of Alice.

"God give her strength! Shut it off—I can't stand it! Elam, smash the infernal thing!"

A hollow laugh echoed from the loud speaker, and the mocking voice continued.

"I am about to bring her out of her sleep—see the needle—recognize the flask of reviving drug? Oh! I thought so!"

"God! He *does* have the drug—all these people asleep, and he has that reviving drug! If only I could kill him—and Alice too, for I'd rather she were dead than in his hands," groaned Jameson, covering his face with his hands.

"Are you in earnest—*would* you kill your sweetheart rather than allow her to be a slave to Bellant? Think quickly!" Elam said tensely.

"Yes—anything but that she be with him. I'd kill her sooner, God forgive me. She would rather, I know. Oh, Elam, you don't know how dear she is to me. If only I could kill him."

"Yes, if only you could!" said the mocking voice from the loud speaker. "Jameson, go to your telescope and train it on the Solar system. In the foreground you will find us—a little black dot—as we start on our first honeymoon voyage—not to earth at present, but shortly. Your machinery is wrecked, and ere long you will all die from some collision in space. My story shall be that I did all I could to save Alice, and that she was demented by the awful scene of your death—accidental, of course—while on Erb—a landslide killed all of you. Well, I shall now apply the needle."

Jameson had been searching the space without, and exclaimed as he found the black dot of the sphere ship way off toward the earth he seemed doomed never to see again.

Suddenly Elam spoke.

"Harry, if you would save the life of Alice, to be lived out with Bellant while you wander space till you die, speak quickly."

"Never!" snapped the grief-stricken Jameson.

"Then keep one eye on the sphere ship, and watch this television screen with the other. All right, Bellant, revive your prize—may she be your everlasting damnation."

"I shall," cried the voice of Bellant, and the screen showed him plunging the needle home into the arm of the form which lay in his arms.

For five seconds nothing happened; then the lips of the figure smiled, stretched into a grin, and then into a leer. Without warning a flash of blue-white flame shot across the screen, a deafening crash came from the microphone, and then both went dead. Instantly Jameson turned to the telescope and caught the image of the far away sphere. As he centered it in his instrument, the glass-like surface of the enemy ship glowed to a brilliant white and with an enormous burst of blue and white spray, the whole ship shattered into cosmic dust.

"My God!" the young astronomer slipped to the floor and his exclamation was a prayer uttered in complete agony, for he had killed the dearest person in the world to him.

"Come, Harry, there is work to be done," said Elam. "All is not lost. I promise you joy greater than you ever knew before if you will follow my directions."

"There is no joy for me now," the prostrate fellow cried. "I wish I might die, too."

"What would you say if I told you that your sweetheart lives—is near you now?"

"I don't believe those stories about spiritual life, Elam. Go away and leave me until I can collect my senses."

"Harry Jameson, your sweetheart lives—she is not dead. I will show you, if you will only give me the chance. The body into which Bellant pushed the needle a moment ago was not your Alice. You will remember I told you I was working on a new servant? That was the servant—a replica of Alice, to all physical appearances. Really only a piece of flesh, scarcely alive, and loaded inside with a charge of the Erbian's most powerful explosive. When the needle plunged into that lifeless arm you saw on the television screen, it delivered not the life-giving drug you thought, but an exciting

(*Continued on page* 85)

A Sequel to "The Drums of Tapajos"

Troyana

By Capt. S. P. Meek, U. S. A.

Author of "The Murgatroyd Experiment," "Futility," etc.

PART III

What Went Before:

FRANK NANKIVELL, Bob Mariston, and George Duncan, ex-army officers, and Ray Willis, veteran revolution promoter, penetrate into the *tierra prohibitiva*, a section of the Brazilian jungle lying between the *Rio Tapajos* and the *Rio Xingu*. They find a strange city, named Troyana, which has been lost to the world for ages. It is peopled by a race of profound scientists, descendants of the ancient Trojans, who hold as slaves the descendants of the inhabitants of the lost Atlantis. They are hospitably received by Nahum, an official of the city. Nankivell falls in love with Estha, his host's granddaughter.

Troyana is a benevolent autocracy ruled by the nobles under their Master. There are four classes of nobles, wearing purple, crimson, blue, and yellow robes respectively. Below these are the black-clad Burden Bearers, or Atlantean slaves.

During an annual religious ceremony, the Adoration of the Golden Calf, a revolution breaks out headed by Amos, a crimson-robed traitor. The slaves capture the lower city, while the nobles hold the sanctuary in the upper city. The fight develops into a stalemate.

Nahum learns of the attachment between Estha and Nankivell, and advises the strangers to leave Troyana. They do so, carrying Estha with them. The next afternoon she is recaptured while the rest sleep.

That night Nankivell sees her in a vision as a captive of Amos. Without waking his companions, he steals all of the ammunition and returns to her rescue, despite the sentence of death passed on him if he returns. The others return to their homes.

Nankivell gets to the lower city. Pressed by Burden Bearers, he descends into a labyrinth below the city, where he is menaced by giant toads and finds a race of richly clad people sleeping in huge crystal cylinders. He cannot open the cylinders and endeavors to return to the sanctuary. He emerges from the labyrinth to find himself in the jungle, where Gedaliah, the Warder of the Outer Ways of Troyana, is about to attack with his Indian guards, hoping to rescue the nobles. Nankivell attacks with them.

They win through to the city, but are captured by Amos. He offers them safety and rich rewards if they will join him, but they refuse. By a ruse, which Estha is able to effect by virtue of her having been High Priestess of the Golden Calf at their annual religious ceremonies, she hypnotizes the slaves who are now on the side of the traitor Amos long enough to allow Nankivell and herself to escape to the sanctuary. Nankivell's return is condoned, but the Master refuses to permit his marriage to Estha until the rebellion is crushed.

The energy and weapons of Troyana are almost exhausted. Nankivell sends a radio message to Mariston and Willis asking them to return to the city, bringing cobalt, the substance from which the nobles of Troyana generate their energy by atomic disintegration. He has no way of knowing whether they receive his message.

With all hope gone, Jereboam, a noble of the highest rank, tells of an ancient legend. It says that the court of Atlantis is in a state of suspended animation in huge crystal cylinders far below the city. Headed by Nahum and Nankivell, an expedition goes to the labyrinth below the city to wake the sleepers and ask their aid.

The expedition is attacked by the *Underground Dwellers*, a race of giant toads, and wins through with heavy losses. They find the sleepers and awaken them. The Atlantean king agrees to aid them and send his subjects for cobalt. Instead of bringing it, they treacherously attack the nobles of Troyana with a paralyzing violet ray. Before they can take shelter, fully half of the expedition, including Nankivell, are paralyzed in their tracks.

CHAPTER XIV

Between Two Fires

A PENCIL line of light sprang from Jereboam's flashtube. It fell full on the rigid form of Nankivell and Jereboam held his breath. Slowly movement returned to Nankivell's frozen limbs. Jereboam increased the flow of static electricity. Nankivell suddenly recovered and with a shout he raced to safety beside the Keeper of the Sacred Treasure.

"Now it's my turn," he announced grimly.

He disregarded the ray which was vainly seeking to penetrate to him through the protecting cylinder and coolly loaded his rifle.

"Step out and draw their fire, Jereboam," he said.

Without hesitation, Jereboam did as he was bid. The violet ray flashed toward him and enveloped him in a dim radiance. Hardly had it moved when Nankivell acted. He leaped out around the opposite side of the cylinder and threw his rifle to his shoulder. It sounded with a deafening crash.

His aim was true. There was a flash from the machine and the ray winked out. The Atlanteans who had been operating it turned and fled.

"I guess it's war, red war!" cried Nankivell.

He reloaded his rifle and took deliberate aim. The weapon roared twice and the Atlanteans were mere heaps of dead flesh. Lowering his rifle he picked up the flashtube which Jereboam had used to counteract the effects of the violet ray. The stream of current was still playing from it and he directed it upon the form of the Keeper of the Sacred Treasure. In another moment, Jereboam had recovered the use of his limbs and was crouching behind the cylinder beside Nankivell.

"Take the tube, Jereboam, and restore the rest of our men. I'll cover the door with my rifle."

He raised the rifle to his shoulder while Jereboam restored Nahum, who lay nearest to them. As soon as the Junior Warder was able to use his limbs, he grasped a tube and assisted Jereboam in his work. From behind cylinders where they had sought refuge, the men of Troyana came forth.

"Form up behind me and we'll rush that door!" cried Nahum.

"You'll do no such fool thing!" retorted Nankivell sharply. "No one knows what is behind there. Certainly that ray isn't their only weapon. Let one or two advance cautiously while the rest cover their advance with flashtubes. I'll do the same with my rifle."

He shuddered as he thought of the thirty-five hundred steps before he started up the long ascent. . . . Nankivell dared not wait until they were close enough for accurate shooting.

"You were ever wise in warfare, Brother Nankivell," said Nahum. "It shall be done as you suggest."

At the word of command, two men, whose black robes bore a narrow crimson stripe, advanced slowly toward the opening, the others following in a thin line at ten paces distance. On the flank of the line walked Nankivell, his rifle held at the ready.

Sixty of the hundred yards separating them from the door had been passed before the next attack came. Without warning the two men in advance swayed for a moment and then fell headlong. Nankivell saw a cloud of light green gas sweeping over the floor toward them.

"Back!" he shouted. "Back, for your lives!"

He set the example by a hasty retreat. Hardly had they reached the shelter of the cylinders than four of the Atlanteans appeared in the doorway holding in their hands long tubes mounted on stocks like rifles. They pointed the tubes toward the nobles of Troyana.

"Scatter!" cried Nankivell.

They scattered like dust and none too soon. From the tubes which the Atlanteans bore came a whistling hiss. Four sparks flew through the air. When they reached the spot where a moment before had been a closely packed group of men, they burst into thousands of tiny whirling fragments. Some of them struck their targets and howls of anguish rose from the unfortunates who were smitten by the strange weapons.

Again Nankivell's rifle cracked. One of the Atlanteans went down with a cry of agony. The others hastily retreated out of sight before he could reload. He watched the doorway carefully, ready to fire instantly. Nahum came cautiously toward him.

"What think you, Brother Nankivell?" he asked. "Can we dare to rush them? Could we get within range our flashtubes would be deadly, but I fear they would slay most if not all of us before we could do them damage."

"I expect you're right," said Nankivell nervously, his eye never leaving the doorway. "The best thing is to cut and run. Gather our men together and make for the entrance where we came in. I'll hold the rear until you are all out and then I'll cut after you. Once in the labyrinth, we'll be able to hold our own. There are a dozen places between here and the city where they can't reach us with their weapons because of the curves in the path until they are within range of our weapons. Oh, you would, would you?"

A man had reappeared in the doorway for an instant, a small object in his hand. He hurled it toward them. As he did so, Nankivell's rifle cracked and he went down in a heap. He started to crawl toward the doorway and Nankivell raised his rifle for a second shot. He lowered it without firing.

"Let the poor devil go," he said. "He was probably only obeying orders. Anyway, I've too few cartridges left to waste any. Get the men together and start the retreat, Nahum. I can't hold them long."

Nahum's voice rang out through the cavern. The nobles of Troyana began to move slowly toward the lower end of the vast cavern. Nankivell kept his eyes fixed on the object which the Atlantean had thrown into the room.

"Run!" he cried suddenly, bounding toward the distant doorway. From the object was coming a cloud of pale green gas, spreading with frightful rapidity toward them.

The men of Troyana needed no second word. Like frightened rabbits they fled toward the doorway and temporary safety. Nankivell ran last, looking backwards every few steps. It was well that he did so for three of the Atlanteans appeared in the doorway, the long tubes in their hands. Before they could discharge their death-dealing projectiles, Nankivell's rifle spoke. The two left standing beat a hasty retreat.

THE way was long and weary, but the cavern entrance yawned before them at last. As they plunged into its depths, Nankivell stopped for a last look down the long cavern. Across the upper end he could see a dozen figures racing toward the upper entrance. They were the men who had been restored to life while the first six were out getting ready their terrible weapons. Among them Nankivell could pick out the figure of the king. He dropped prone and covered the flying figure.

"No," he said regretfully as he rose. "I've only got four cartridges left and I don't dare waste them. I'd probably miss a running man at that distance and I don't care to let them know that a rifle isn't infallible."

He turned to Nahum.

"You had better form our men in column again," he said. "Leave most of the charged tubes in the rear. I'll command the rear guard and hold the Atlanteans back on every curve until the main body rounds the next one. Then we'll retreat after you. I've got ten shells for my pistol and four for my rifle, so I can delay them a while. Look out for the *Dwellers*."

Nahum formed his men in the formation suggested by Nankivell. With a dozen men the American held the rear while the balance made their way forward.

"I don't think we'll have them after us for a while," said Nankivell to Mordecai, the leader of the detachment with him. "They'll stop to rouse a number of their comrades before they start in pursuit. Our biggest danger will be from the *Dwellers*."

Nankivell's prediction was borne out by subsequent events. No attack came from the rear. The column made its way forward at a good speed. Gradually the light faded out and all along the line, hand lights began to glow.

"Look out for trouble!" he suddenly exclaimed. His nose had caught a whiff of the reptilian odor which marked the presence of the huge toads who had taken so heavy a toll of the column on its way out.

Hardly had the words left his mouth than there came the crash of a flashtube from the main body ahead. The musky odor became nauseating.

"Look sharp with the lights!" he cautioned.

The little group of men under his command turned their lights nervously, first one way and then the other. Presently a vague form could be made out in the gloom ahead of them.

"Charge him!" cried Nankivell, setting the example by running forward with a shout. The huge bulk retreated before him with a slight scuffling sound. The stench became almost intolerable.

As he passed a cross corridor, a huge bulk lunged toward him, but Nankivell was not napping. His flashtube roared and the *Dweller* was cast aside in a crumpled heap. From ahead of him could be heard the occasional roar of a tube, telling that the main body was not immune from attack.

The bulk he was pursuing turned up a cross passage. Nankivell approached cautiously, his tube held ready. He

shot his light down the route which the *Dweller* had taken but saw nothing. A slight scuffling sound behind him made his hair stand on end and chills run up his spine. He whirled about but before he could complete the movement a flashtube roared behind him.

"The way is clear, Brother Nankivell," came Mordecai's calm voice.

"Thanks," said Nankivell. "We had better catch up with the main body. I think the *Dwellers* are enough protection for our rear just now."

Abandoning all efforts to guard the way behind them, the rearguard raced forward, ever on the alert for the approach of the huge toads. Presently a flash and a roar a hundred yards ahead told them that they had almost closed the gap which separated them from the main body.

Nankivell looked back along the way they had come. Through the darkened passage, a slender pencil ray of violet light made itself dimly visible in the gloom.

"Here they come," he cried. "Mordecai and one other stay with me. The rest join Nahum. I'll try to stop them."

He dropped prone, his rifle stock cuddled against his cheek. The source of the violet light came nearer. Now it was only a hundred yards away. Beside him, prone on the floor, their lights extinguished, lay his two companions. Nankivell could not see the source of the violet light but he knew pretty well where it must be. He lined his rifle as carefully as he could in the darkness and with a prayer, squeezed his trigger.

There was a flash of orange light and an ear-splitting crack. From up the tunnel came a cry of pain and the violet light veered wildly. Again Nankivell fired. The light dropped to the floor and he could hear the sound of running feet. He rose to go forward but there came the fateful hissing sound he had heard in the vast cavern, only now a hundred times intensified. Through the dark a tiny spark wended its way toward him.

He sprang to the side of the cavern, realizing the uselessness of the move. When that spark burst, everything within a radius of a hundred yards would be struck by the tiny whirling sparks whose touch meant agony unspeakable. Suddenly the spark died away. There was a hiss and an overwhelming reek of feter. Nankivell turned on his light. One of the huge *Dwellers* had been creeping up in the darkness and the strange missile had struck it fairly.

"Never thought I'd learn to love one of those things," he said whimsically, "but if I had time, I'd go back and drop a tear on his ugly carcass. Come on, men, the war is over for a minute. Let's retreat to the next turn and make another stand."

With Mordecai and his companion ahead of him, Nankivell sprinted up the tunnel. He dared not turn on his light and prayed fervently as he ran that none of the *Dwellers* would choose that moment for an attack. Luck was with him and he rounded the next curve and saw the lights of the main column a hundred yards ahead of him.

"Speed up your retreat, Nahum!" he cried. "The Atlanteans are after us."

"We are almost beyond the region of the *Underground Dwellers,*" was the welcome answer. "If you can hold them back for another half mile, we will be in the safe region."

"I'll hold them as long as the ammunition holds out," replied Nankivell. "The next time I'll let them come to close quarters and use my pistol more effectively."

The column went on leaving the three men alone in the dark. Around the corner a dim glow of violet light could be seen. He drew his pistol and slipped off the safety. There was a dull thud in the darkness and then silence. Suddenly his nose caught a whiff of a strange sweet odor. He sniffed again and his head swam and his senses reeled. With a sudden suspicion he turned on his light. Twenty yards ahead of him on the floor lay a small globe from which pale green gas was slowly oozing.

"Run!" he gasped, staggering to his feet.

Mordecai rose feebly but the other man did not stir. Nankivell stooped and grasped him by the collar. The man was slight and with an effort of which he had not known himself capable, Nankivell threw the man over his shoulder and staggered at a feeble trot up the corridor toward Troyana.

He had gone less than a hundred yards when a beam of pale violet light pierced the darkness over his head. He dumped his burden on the ground and whirled about. The source of the light had rounded the curve. He raised his pistol and fired.

Again there came a sound of retreating feet and the light winked out. Nankivell shouldered the unconscious form of his follower and staggered on. He made his way for four hundred yards before he came to another bend in the tunnel. He dropped his burden and bent over it, his ear at the man's chest.

"Farewell, Brother," he said sadly as he raised his head. "May the Great Architect bless and receive you and may your years in the place where you have gone be happy ones."

With a sudden thought he raised the body of the dead man and held it before him like a shield.

"Run, Mordecai!" he exclaimed. "Join Nahum and tell him that I will hold the rear alone. Bid him haste all he can."

The Planner demurred, but Nankivell spoke peremptorily.

"Obey my orders!" he said. "Alone I may be able to hold them. With the added care of you, I could do nothing. Go!"

Mordecai turned and fled up the tunnel. Nankivell lifted the body of the dead man and moved forward around the curve. In the distance he could see the flicker of the deadly violet beam.

Nearer it came until it was only thirty yards from him. The wandering beam picked him out and played over the dead body. Nankivell crouched behind it praying that it would not penetrate the flesh. He felt a sudden numbness in his side as the beam found an unprotected spot. The beam raised and played over the rest of the tunnel. Presently it winked out. Footsteps approached slowly. He gripped his pistol and waited.

THE oncoming Atlantean was less than ten feet from him when Nankivell fired. There was a crash as the man fell. Without a pause Nankivell fired twice more down the cavern. Screams of pain rewarded him. Again came a sharp hiss, but Nankivell was on his feet and running for dear life. He rounded the curve before the spark burst, sending its thousands of sparks of destruction in all directions.

"I think that'll hold them for a while," he muttered. "It's lucky those big toads haven't complicated matters

more. Now if I can catch up with Nahum before he is too far away."

He ran at his best speed up the tunnel. It began to slope upward and his breath came hard. He rounded a curve and found himself in a tunnel barely ten feet across. A hundred and fifty yards ahead of him marched the main body.

"I think I've stopped them for the present," he said to Nahum as he panted up, "but they'll come on again. If we can reach the sanctuary and close the door on them we'll get a breathing space at least. How many men did you lose on the passage?"

"Eight," said Nahum sadly. "Seven taken by the *Dwellers* and one smitten by a poorly aimed flashtube. The stairs are but a few hundred yards ahead. It is while we climb them that the Atlantean will have their chance to make an end of us."

"Not necessarily," said Nankivell cheerfully. "I still have a few shots left and I think I have them pretty well buffaloed. I'll go last and take an occasional pot-shot at them if they get too frisky. Climbing the stairs is going to be the hard task. I doubt whether all of us can make it."

"Those to whom the Great Architect gives strength will win through to safety," replied Nahum. "We are all in His hands."

Before them loomed the flights of steps. Nankivell shuddered as he thought of the thirty-five hundred steps before them. He looked back along the route they had come. In the distance flickered the deadly violet light.

"Forward!" he cried. "There is no time for loitering."

The column started up the long ascent. Nankivell climbed slowly in order to keep his hand steady. He had mounted two hundred steps before the violet light reached the bottom of the flight. Now it started to mount but it was no longer playing about as it had been. It held a straight course and one which it was easy to avoid. Crouched on one side of the steps, Nankivell waited.

When he judged that the light was within sixty steps of him, he raised his rifle to his shoulder. Steadily he squeezed his trigger. From the source of the light came a brilliant purple flash and then darkness. A sound as of men in agony reached him. A lucky shot had wrecked the device which had been brought after them. He raised his rifle again and fired his last remaining shot into the huddle of dark forms he could dimly see below him. There was a sound of a body falling and he knew that his last shot had been a good one. He raised his rifle to hurl it down toward them but a thought made him pause.

"If they find the empty gun, they'll know I'm out of ammunition and they'll come right on," he reflected. "It's an awful weight to carry up these long stairs with me, but I don't dare discard it. Well, here goes."

He turned and went rapidly up the three hundred remaining steps of the flight. As he reached the top he paused, almost exhausted.

"Whew!" he cried. "I had no idea that climbing was such hard work. If I hadn't been doped up by Jereboam two years ago, I'd never be able to make it."

He paused to recover his breath before he made his way along the level space which separated the flights. The main body was half way up the next set of steps. He stopped and waited, pistol in hand, until the end of the column had climbed to the top. Dim as the light was in the lower stretches, his eyes, so long accustomed to darkness, could see plainly. When the main body had disappeared on the level stretch, he started his climb.

Again he thought that his legs would fail him before he surmounted the last of the five hundred steps, but grim necessity drove him on. At the top he paused.

"I'll make a stand here," he said. "They'll meet with no opposition on the second flight and they'll come on more carelessly."

He lay prone and watched down the steps. Presently the forms of his pursuers came into view, climbing slowly as though they bore heavy weights. When they were within thirty steps of the top they paused. Nankivell could see that the three men in the front rank bore the long tubes from which had come the deadly sparks. After a consultation, one of them raised a tube to his shoulder. Nankivell dared wait no longer. He leveled his pistol and fired.

HIS aim was good. With a choking cry, the gunner threw up his arms and fell backwards, carrying another man with him in his fall. Nankivell fired again and one of the remaining gunners sank with a groan. The third raised his weapon and Nankivell spent another of his few remaining rounds. The man dropped his tube and grasped at his shoulder. Nankivell leaped to his feet and fled along the level toward the third flight.

His marksmanship had been good enough to stop the pursuit for a time and he climbed two flights, well behind the main body, before there was a sign of continuing pursuit.

This time the Atlanteans changed their tactics. Instead of coming on in a compact group, they scattered, the gunners in front. At each hundred steps they would pause and fire upward a volley of their deadly sparks which would burst into fragments, each of them loaded with suffering and death. Nankivell dared not wait until they were close enough for accurate shooting. When they were, as nearly as he could judge, a hundred and fifty steps below him, he fired one of his four remaining loads. He aimed low and he could hear the ricocheting bullet whine through the air. The Atlanteans dropped in their tracks like one man.

Again Nankivell fired and this time his shot took effect. An Atlantean gave a cry of pain and leaped convulsively upward. A volley of sparks flew upward and burst below him. One spark fell on him and Nankivell bit his lips to keep from screaming in agony as it touched him. The gunners were preparing to fire again. He leaped to his feet and fled as fast as his wearied limbs would allow.

At the top of the fifth flight he turned and dropped prone, his heart pounding as though it would burst. Again the Atlanteans came resolutely ahead in a scattered formation.

"I can't stop them much longer," sobbed Nankivell through set teeth. "I'll give them the two shots I have left and hope it will hold them until we can win through to safety."

He rested his pistol on the top step and took deliberate aim. His pursuers were climbing slowly, stopping every fifty steps to send a volley of deadly sparks ahead of them. Again he let them come within a hundred and fifty steps before he fired.

At his first shot one of the gunners dropped in a heap

and slipped slowly down the stairs. Sparks flew up toward him but fortunately they burst behind him and he was not harmed. With a prayer on his lips, he fired his last shot. A gunner rose to his feet with a shriek and plunged down the long flight. Nankivell rose deliberately and started down the stairs.

He had gone but ten steps when the Atlanteans rose with one accord and fled back down. Nankivell did not press his advantage. As soon as the retreat was well started, he retraced his steps and made his way slowly and with infinite difficulty up the sixth of the seven flights leading to the sanctuary and, he hoped, to safety. As he surmounted the last of the steps he found the main body waiting for him.

"I fear we can not climb the last flight unaided," gasped Nahum as Nankivell joined them. "Can you hold them for ten minutes?"

"My last shot has been fired," replied Nankivell. "We must press on, else death is our portion."

A groan greeted his words. It was checked by an exclamation from Jereboam.

"Succor!" he cried. "Look! One comes from the sanctuary!"

Down the flight of steps came a blue-clad Planner at break-neck speed. Nahum rose and made his way slowly up the steps to meet him, the others trailing after him, many of them on all fours.

The Planner raced down and came to a pause before Nahum.

"Have you brought aid and comfort, Junior Warder?" he gasped.

"Alas, no, I bring only added peril," replied Nahum.

"Then is Troyana indeed doomed!" cried the messenger.

"What mean you?" demanded Nahum while a murmur rose from the men.

"Our store of energy is completely gone," was the answer. "Not one atom remains in the sanctuary. The cohorts of Amos have battered in the walls of the upper city and are now hammering at the door of the sanctuary itself!"

CHAPTER XV

Rescue

THERE was a moment of silence as the messenger cried his words of doom. It was broken by Nahum's voice.

"To the sanctuary!" he cried hoarsely.

Forgotten were fatigue and aching muscles. Forgotten were the ruthless enemies behind them. In the mind of each noble of Troyana was but one thought, to get to the sanctuary and to interpose his body between the cohorts of Amos and the Holy of Holies in the assembly hall. As one man they raced up the long weary flight of stairs, sobbing with weariness, yet held to their high purpose by the ingrained training of centuries.

Foremost in the race were Nahum and Nankivell. The aged Junior Warder was driven by his loyalty to Troyana and to the high order of which he was a member. Nankivell was impelled by a different motive. Before his mind's eye floated a sickening vision—Estha helpless in the hands of the degenerate Bearers of Burdens.

The ascent seemed endless. It required a separate effort of his will for Nankivell to mount each one of the steps. His heart pounded until it seemed that it would burst through his ribs. His breath came in sobbing gasps. Yet, strive as he would, Nahum kept three steps ahead of him and was the first to mount the last step. Without a pause he raced along the level corridor which led to the entrance to the beleaguered citadel.

As Nankivell's feet reached the level he stumbled and fell for an instant on one knee. As he rose he was tempted again to throw away the useless rifle which bore him down as though it weighed a hundred pounds. He paused for an instant before he threw it down. Then with an expression of grim determination he slung the weapon back over his shoulder and ran as best he could after the flying figure of the Junior Warder.

On the level, Nankivell's younger muscles stood him in good stead. He was abreast of Nahum when they came to the gap in the rock through which they had passed to descend into the regions below the lower city. Side by side they dashed into the sanctuary.

A cry of dismay broke from Nahum's lips and was reechoed by Nankivell. The situation was even worse than the message of ill omen they had heard had led them to believe. Through a gap which had been battered in the walls of the sanctuary itself poured a stream of black-clad figures. Evidently Amos' supply of energy was exhausted as well as that of his opponents for no crash of flashtubes was heard. With sword, club, and axe, the Burden Bearers attacked the thin line of brilliantly clad nobles who opposed them.

Crimson, blue and yellow were mingled indiscriminately in the bitterly held battle line. The nobles were outnumbered three to one and still through that gap in the wall, more black-clad figures poured. With a cry, Nahum drew his sword and dashed forward to take his place in the line of battle. Nankivell glanced at his useless weapons with a groan.

"Oh, for just one bandolier of ammunition!" he cried. "Well, anyway, a Springfield makes a good club."

Grasping his useless weapon by the muzzle he threw himself into the fight. He found himself beside Zephaniah. The Master was endeavoring with a short sword, in the use of which he was none too expert, to defend himself against the attack of two men armed with heavy axes. As Nankivell reached him, his guard was broken down and a heavy axe swept down toward his head. Nankivell thrust forward the stock of his rifle and deflected the blow. Stepping back a step he swung the weapon. It crashed down on the head of his assailant. At the same instant, Zephaniah's sword was driven home in the body of the other attacker.

"You come in good time, Brother," gasped the Master. "Have you word of cheer?"

"None, Most Worshipful Sir. Other enemies are at our heels with strange and terrible weapons."

"Then must we retreat while we may," replied Zephaniah.

They had drawn back from the front of the battle line. The Master swept a keen eye up and down the line. The nobles, reinforced by the men who had accompanied Nahum into the lower regions, were momentarily holding their own. Men in black robes with only a narrow band of color about their necks to mark their exalted rank were still pouring through the doorway which led to the chamber where the court of Atlantis slept. And now came a sudden diversion which gave his forces an advantage.

As Nahum's men joined the line, a flashtube crashed. A dozen men who were in front of the heavy charge of static electricity went down as though a thunderbolt had smitten them. The first crash was followed by another and yet another until all along the line tubes flashed and roared. The front rank of Amos' forces was swept away and tossed into heaps, mere husks of quivering scorched flesh. Above the din could be heard Nahum's voice.

"Forward!" he cried. "Sweep the scum back to their haunts!"

A cheer answered his words. More crashes of discharging tubes filled the air with a roar of sound. Sword in hand the nobles pressed forward. For a moment it looked as though they would be victorious and again hurl their attackers out of the sacred precincts they had dared to profane.

There was a sudden cessation of the sound of discharging tubes. The nobles still pressed forward, but the Burden Bearers no longer retreated. Behind them stood a figure, attired in the crimson robes of the cryptic rite and with the golden jewel of a Master flashing on his breast.

"Their tubes are exhausted!" he shouted. "Now they are at your mercy! One more charge and we possess the upper city. Forward!"

"Amos!" cried Nankivell.

He searched frantically in his pockets, hoping against hope that he would find an overlooked cartridge, but his hope was vain. The black-clad line surged forward, driving back the defenders of the sanctuary by sheer weight of numbers. An inspiration came to Nankivell.

"Where are the women?" he shouted to Zephaniah.

"In the assembly hall!"

Nankivell drew back from the battle line and raced at top speed toward the inner hall where stood the Holy of Holies, the great altar of Troyana.

He burst through the half dozen men who guarded it. Inside were a crowd of women and children, on their knees praying silently for their men who battled to the death outside. He looked around but could not find the one he sought.

"ESTHA!" he shouted.

"Here, Frank," answered a clear voice as Estha rose from her knees.

"The other pistol, quick!" he panted. "If I can shoot Amos, we may turn the tide yet."

She handed the weapon to him. He paused for an instant to snatch a hurried kiss before he dashed out into the battle which waged in the courtyard. Amos was still in plain sight, urging forward his minions.

Nankivell opened the pistol and gave an exclamation of disappointment. He had thought that he had left two cartridges in it, but there was only one. If he used it to end Amos' evil career, there would be no sudden and merciful death for his beloved when the last barrier was smashed and the hordes of Burden Bearers poured into the assembly hall to work their will on the women of their masters.

"Too bad, but it can't be helped," he muttered. "Killing him is our best chance."

He moved forward until he was in the thick of the fight. Amos stood motionless, barely thirty yards from him. He could get no closer safely. He raised the pistol and carefully aligned the sights on the center of the renegade's broad chest. He slowly tightened his grasp. There was a sharp crack as the weapon went off. Nankivell hurled it to the ground with a cry of rage. Just as he fired, one of the combatants lurched against him. His lone bullet had gone wide of the mark.

A blow fell on the back of his head and he lurched forward. In an instant he was surrounded by black-clad figures who thrust at him with swords and daggers and strove to reach him with their axes. Their very numbers hindered them so that for an instant he was unharmed. A sword hit home in his thigh and he dropped on one knee. His hand came in contact with an axe which had fallen from the hand of a smitten man and he staggered to his feet, the weapon in his hand.

The close-packed ring about him gave back as a huge Atlantean rushed at him, a heavy axe lifted above his head. Nankivell dodged back and the axe swept harmless through the air. He leaped to one side as well as his crippled leg would allow and smote in turn, but his weakened leg would not support him and he went down. With a diabolical grin, the Atlantean raised his axe for a second stroke. Nankivell shut his eyes, but before the blow could fall, a sword flashed across him and buried itself to the hilt in the black-clad body.

Nankivell staggered to his feet, axe in hand. Beside him stood Nahum, holding a bloody sword.

"To my back!" the Junior Warder shouted.

Nankivell obeyed. Back to back the two men fought, Nahum's sword a whirling circle of steel while Nankivell's rose and fell with deadly effect. Two men could not long wage battle against such odds, but help was close at hand. There was a sudden surge and a group of yellow-clad figures burst through the sombre ring. They circled the two men and bore them back to the battle line where the retreating nobles were doggedly contesting every step of the way.

The odds had grown until five Burden Bearers opposed every one of the higher degrees. By sheer weight of numbers they forced them back until the nobles were gathered in a circle about the wide doors of the assembly hall.

The shouting had long since died out. There was no breath to waste in vain cries in that terrible struggle. Only the ring of steel on steel and the dull thud of falling axes could be heard with now and then an involuntary cry of anguish from a wounded man.

No quarter was asked or given. If a noble fell beneath the feet of his former slaves, he knew his fate. A sword or an axe ended his life if he were sorely wounded. If not, he was dragged to the rear, doomed to be offered as a sacrifice to that grotesque travesty in the lower city, before which the Burden Bearers celebrated their depraved worship. The Atlanteans were waging a grim war of extermination on those who had held them in subjection and bred them like cattle for countless generations.

The circle of the altar's defenders grew steadily smaller as man after man fell before the dogged attack of the Atlanteans. Still there was no thought of surrender and each man fell on the ground where he stood and another stepped forward to take his place. Nankivell drew back from the front line for an instant and looked around. A cry of dismay and horror came from his parched lips. Through the gap in the stone which led to the lower regions emerged a line of men attired in leather harness sparkling with brilliant gems

and with short cloaks of vivid colors hanging from their golden collars. In the hands of the foremost were long thin tubes somewhat resembling rifles. The long-sleeping king of Atlantis had come to the aid of the descendants of his abandoned subjects.

At Nankivell's cry there was a momentary pause in the fighting. Both sides looked at the newcomers anxiously. The Burden Bearers feared that their former masters had obtained assistance, while only those who had fought underground with Nahum knew who the newcomers were.

A word of command barked sharply through the silence. The gunners raised their long tubes.

"Fly!" cried Nankivell. "Into the assembly hall and close the doors or all is lost."

The last part of his speech was drowned in a sharp, long-drawn-out hiss. From the threatening tubes came a volley of bright sparks which sailed through the air toward the defenders of the altar. Just before they reached their goal they burst and the air was filled with thousands of whirling motes of light. They settled on friend and foe alike.

Now the battlefield rang with screams of agony from the unfortunates who were struck by those whirling motes. They rolled on the ground in almost unsupportable agony.

Above the screams sounded another hoarse word of command. The gunners raised their tubes again. A shudder ran through the ranks of the Troyana nobles, helpless against this horrible weapon. The seconds seemed to be years in length. Nankivell felt that he could no longer stand the strain and that a scream would burst from his lips despite himself unless his tortured mind gave way before the horror he knew was coming. The Atlantean king raised his hand. His lips opened to give the word of command which would send another volley of death-dealing missiles into the ranks of Troyana.

Through the silence came a sharp crack. Before Nankivell's astonished gaze the Atlantean king spun around and fell headlong, the command ungiven. Another vicious report split the air and one of the gunners threw up his arms and fell backwards. As he did so there was a sharp hiss from his tube. A spark left it and traveled straight up. It burst and showered the whirling motes of light down on the adherents of the king of Atlantis.

With growing wonder Nankivell whirled about. In the doorway of the assembly hall, standing on the topmost of the seven steps which separated the doorway from the courtyard were two figures. In their hands were rifles from which a steady stream of fire now poured on the remnants of the court of Atlantis.

"Bob Mariston!" he cried, unable to believe his eyes. "Ray Willis!" he shouted as he recognized the second figure.

He turned and hobbled up the stairs, unslinging his rifle from his back as he did so.

"Give me ammunition!" he cried.

Mariston ceased his fire long enough to unsling a bandolier, and toss it to him.

"Don't waste a shot, youngster!" he cried as he reloaded his rifle and fired again and again at the retreating invaders from the lower levels.

Now there were three rifles pouring in a deadly hail of missiles and the remnants of the Atlantean king's court were crowding one another to win through the narrow gap in the rock to comparative safety. In another moment they were gone.

The three riflemen turned their weapons on the ranks of the Burden Bearers. They fired rapidly but their volume of fire was too small to have much effect on the hundreds of black-clad figures who had followed Amos from the lower city. With the menace of the Atlantean nobles removed, the attack was resumed. Desperately as they fought, the nobles were still being driven back, despite the withering fire of the rifles.

Two figures detached themselves from the battle line and raced toward the assembly hall. They came to a halt before the newcomers.

"Brought you energy, Worshipful Brother?" cried one to Mariston.

"Oh, hello, Nahum," answered Mariston. "Fraternal greetings, Most Worshipful Sir. Yes, I've got thirty pounds of the stuff in my pack here."

"Then Troyana is saved!" was the joyous rejoinder of Nahum and Zephaniah.

Mariston grounded his rifle and slid out of the suspenders of his pack. He tossed it to Nahum. The Junior Warder fumbled with the straps for an instant and then rose, the light of victory in his eyes.

"It is here!" he cried. "Come, we will start the projectors!"

Followed by Zephaniah, he ran behind the battle line toward the room which housed the emergency power unit adjoining the assembly hall. The two men disappeared from view. Mariston raised his rifle and resumed firing.

For another five minutes the battle raged. Then from a huge tube mounted on top of the power unit came a fierce red light. Like an avenging flame it swept down on the ranks of the Burden Bearers and in its wake was death and destruction. Robes burst into flames and a sickening smell of burning flesh permeated the air. With cries of terror, the cohorts of Amos turned and fled.

A second ray joined the first. Side by side the two beams of red swung over the battlefield and where they passed was left no living thing. The Burden Bearers left alive fled with cries of fear through the gap they had made in the sanctuary walls and sought haven in the lower levels. In a minute the courtyard was free from living enemies.

The rifle fire had ceased. There was nothing left to shoot at. Nankivell grounded his rifle and wrung Mariston and Willis by the hand.

"You got my message?" he asked uselessly. "Of course, I know you did. I was sure you'd come, but you sure got here in the nick of time. Another ten minutes and it would have been just too bad."

"Glad to see you, old man," cried Mariston, his arm about Nankivell's shoulder. "Ray and I were afraid it was your ghost when we heard your voice on Dunc's trick receiver. We started at once and we won through, although we lost every man of our followers."

"Let me ask you a question," broke in Willis. "Did you rescue Estha all right? We'd have come after you that morning if you hadn't stolen all of the ammunition we had."

"Yes, Estha is safe," replied Nankivell. "Of course you'd have come, you darned fool, but I did better alone. I knew what I was about."

"For a wonder," laughed Willis.

"I suppose you and Estha are married long ago?"

Nankivell's face fell.

"No," he said, "we aren't. The Master couldn't see it, at least not until Amos was defeated and our rule was reestablished."

"In that case, I hear wedding bells chiming," said Willis with a chuckle. "How about it, Bob?"

"I hope so," laughed Mariston. His face grew suddenly sober and he looked at Nankivell.

"Frank," he said hesitatingly, "Balkis—"

"Is still alive and will probably thrash you for not coming back with me two years ago. She—"

Zephaniah stood before them.

"Worshipful Brother Mariston, and you, Brother Willis," he said ceremoniously, "to you are the thanks of Troyana due for your rescue of her in her extremity. No gift that our city affords will be denied you. You have but to ask and you shall receive."

"We'll talk that over later, Most Worshipful Sir," said Mariston brusquely. "Meanwhile Brother Willis has another thirty pounds of cobalt. You had better take it and get busy. There is work yet to be done!"

"Work?" asked Zephaniah in puzzled tone as he took the pack which Willis handed him and tossed it to a Planner who stood near by.

"Yes, important work. You've got Amos on the run; now keep after him. Don't give him a chance to bolster up his men's morale which is shot to pieces right now. Gather every man and we'll go after him where he lives. Get your flashtubes ready."

A sudden glow illuminated the Master's face.

"Those are words of wisdom," he said. "Every flashtube is empty, but with the energy you have brought, we can recharge them all in an hour. Then we will be ready to march."

"Meanwhile," added Nankivell, "you had better close that door through which we went down below."

"That is being done by Brother Jereboam," replied the Master. "He will close it and also drop fourteen emergency doors, each one hundred feet thick, at the top and bottom of each flight of steps leading below. We need fear nothing further from that quarter. Now if Brothers Mariston and Willis will come with me, we will prepare for the attack."

"After we settle Amos we'll talk about what to do to those chaps down below," said Nankivell. "Meanwhile, you can load the flashtubes without us. I want to see Estha and I fancy that my friends have someone they would like to see as well. We'll be ready to march as soon as you get the flashtubes charged."

"In an hour we will be ready to storm Amos' stronghold," replied the Master.

CHAPTER XVI

Balkis

WITH Mariston and Willis at his heels, Nankivell led the way toward the door of the assembly hall. They walked through cheering ranks of Planners and Craftsmen who strove to do honor to their rescuers. As they passed through the doorway into the vast hall, the din of cheering was left behind. In the inner shrine, the entire concourse were on their knees while Jereboam stood before the altar, offering thanks to the Great Architect for the aid he had vouchsafed the city. They paused until the prayer was ended. As the kneeling throng rose to their feet, Nankivell spoke.

"Estha!" he called.

Jereboam turned at the words and saw them.

"Honor be to those to whom honor is done!" He cried in a ringing voice.

"Women of Troyana, do honor to Worshipful Brother Mariston and to Brother Willis for the trials they have undergone and for the aid they have rendered."

"Oh, stow that," exclaimed Willis uncomfortably.

Mariston grinned at him quizzically.

"Better get used to it, Ray," he advised laughingly. "They're going to make a hero of you in spite of all you say or do, so you might just as well like it."

Four of the women came forward. Before Mariston they dropped on their knees while one of them spoke. "Worshipful Sir," she said, "the humble thanks of the women of Troyana——"

"Help!" cried Mariston faintly, while Willis and Nankivell grinned.

"Better get used to it, Bob," said the latter.

Mariston stepped forward and raised the leader of the deputation from her knees.

"I appreciate your gratitude," he said, "but really, you're thanking the wrong man. Ray Willis is the man who is really responsible for our being here. Please favor him with your attention for a while. He likes it. Brother Nankivell and I have serious business to attend to."

The woman caught Willis' hand and raised it to her lips. Mariston and Nankivell hurried away with Willis' cry of "double-crossers" ringing in their ears.

"It *was* a dirty trick, Frank," chuckled Mariston, "but I know you went to see Estha and I've waited two years to see Balkis. I wonder where she is."

"We'll find out from Estha, old man. She's in the alcove to the north of the oriental throne. Now buck up, for I think you have another installment of hero-worship coming. Such are the penalties of grandeur."

He led the way to the alcove where Estha was waiting, her face aglow with joy mingled with anxiety.

"Are you hurt, Frank?" was her first question.

"Nothing serious," he replied. "I got a dig in my leg that I'll let you bandage, although it has quit bleeding already. If it hadn't been for Bob Mariston here, my name would have been Dennis sure enough. I really think you had better go down on your knees to thank him. He expects it and he likes that sort of stuff."

He winked as he spoke. Estha and a girl who stood behind her in the dark shadows dropped on their knees. Estha reached for Mariston's hand with the evident intention of kissing it.

"Frank Nankivell, I'll wring your neck!" cried Mariston as he leaped for his companion.

"You're a hero, any way you look at it, Bob," cried Nankivell as he dodged the attack. "You might just as well like it. Come on, Estha, we'll leave Worshipful Brother Bob to the tender mercies of his admirers for a while. I want you to bind up my leg."

He caught her by the hand and lifted her to her feet. With a parting laugh at Mariston's rueful countenance, he led her away to the main hall, leaving Mariston to face the still kneeling girl.

"Really now," protested Mariston, "I wish you wouldn't kneel to me like that. I'm not used to it, and besides——"

His voice trailed off into silence as the girl looked up. He stared at her unbelievingly for an instant and then a wave of color passed over his face.

"Balkis!" he cried.

Balkis looked at him shyly.

"May I not thank you, Worshipful Sir," she said, "for what you have done for Troyana and for my countrymen?"

"Balkis," he exclaimed, a note of pain in his voice, "Am I 'Worshipful Sir' to you? You didn't use to use such formality."

"But then you were not one whom the wearers of the purple had seen fit to honor as one who merited the homage and thanks of all," she answered, her face averted. "Now it is fitting that I kneel to humbly offer you thanks."

Mariston stepped forward and raised her to her feet.

"If you're going to act like that, I'm going to be sorry that I came back here," he said. "Balkis, I've longed so much to see you. Aren't you just a little glad to see me?"

"Surely I am glad to see my city's rescuer," she answered with downcast eyes. "Never was any one more welcome than you are."

"Welcome because I brought aid?" he demanded.

"Why else, my lord?"

Mariston turned away, a wry expression on his face.

"I suppose so," he said. "Naturally you were glad to see Amos and his followers thrust back where they belong. Well, we're going down after them in a few minutes. An hour should suffice to restore the rule of the Master without any serious fighting."

"Fighting?" she exclaimed faintly. "Must there be more fighting?"

"A little, I'm afraid. Amos will fight to the last ditch and so will a few of his followers."

"Must you go?" she asked. "You have done enough. Cannot you stay here and let the others fight the last battle?"

"Not by a long shot!" he declared. "I wouldn't miss the final windup for anything. I haven't done any fighting at all yet. This may be a first-class scrap. Why shouldn't I go?"

"As my lord wills," she answered. "Who am I that my wishes should influence one of your exalted rank?"

MARISTON turned back toward her, an expression of pain on his face.

"I didn't expect a greeting like this from you, Balkis," he said. "I came back here when Nankivell called to me to bring aid to him and to my brothers. I would have come for that reason, but I had another thing which urged me more strongly even than loyalty. Hardly had I left Troyana two years ago than I realized that I had thrown away any chance of happiness that the world might hold for me. I realized how utterly wrong and foolish I had been when I told Nankivell that a marriage between him and Estha would not bring happiness. My heart was sore at my folly.

"When I found that he and Estha had outwitted me and that she had fled with him, I rejoiced for them, but my heart bled the more. In trying to save them, I had offered my own heart as a sacrifice and it had been a vain one.

"Had the opportunity been mine I would have returned, but the way was forever closed to me. Then and there I swore that if the way should ever open, I would return to Troyana, never to leave again. When I heard Nankivell's message, my heart leaped with a throb of joy, for I knew that if I lived to win through, I would see you again. I dreamed of many ways in which you would greet me, but never of a way like this."

"And why did my lord wish to see his humble handmaiden?" asked the girl.

"Need I tell you, Balkis? It was because I loved you, because you were more to me than all else in the world. Your face has been before me day and night and your voice has rung in my ears. I came back here that I might say to you those words I foolishly choked back, the words, 'I love you.' Balkis, I have won through to your side. Now I avow my love for you and ask you to be my wife. Will you take me?"

"Surely, my lord," she replied. "Could any maid of Troyana refuse anything which the rescuer of her city asked? Did not Jereboam order us to honor you and to grant your desires? Surely I will wed with you, my lord, and count myself honored."

A groan burst from Mariston's lips.

"It is not for gratitude that I wish you to marry me, Balkis," he cried. "Unless you love me, don't offer yourself as a sacrifice on the altar of gratitude, for that would make neither of us happy. Tell me, do you love another?"

"How could I think of love for another when my lord has honored me by offering to wed with me, a humble maid who is nothing, unless my lord thinks that being born in the blue is a virtue. Surely, but one love could fill my heart, love for him who braved all dangers to come to the rescue of my hardly pressed countrymen."

"Let gratitude be," cried Mariston hoarsely. "Answer me plainly. Is there one whom you love?"

"Yes, my lord," she said faintly. "There is one whom I have loved for years, one who I have prayed would one day favor me."

Mariston bowed his head. He raised it again in a moment, a rare smile showing through the pain.

"I might have known," he said softly. "I wish you every happiness with the man of your choice, Balkis. I am sorry that it had to turn out so, but if you are happy, I shall be content. Who is he?"

"It is one who might have had me long ago for the asking, but who steeled his heart against me and left me desolate. For that I vowed that I would one day punish him. Have I done so?"

"Why—who—what do you mean?"

Balkis raised her head and allowed her glorious eyes to look full into his.

"Oh, Bob, you silly boy," she cried, laughter and tears in her voice, "don't you know? It's you, dearest, it's always been you. Now kiss me quickly before I scream."

"Balkis!" he cried, hardly believing his ears.

She held out her arms and he caught her to him in a passionate embrace.

"Break away there, thirty feet is the footage limit on that kiss," came Nankivell's cheery voice.

Mariston released Balkis for an instant.

"Go soak your head, Frank," he said.

"Ain't love grand, Estha?" went on Nankivell's cheery raillery. "Can you imagine staid old Bob Mariston acting like a love-sick calf and inviting his best friend to soak his head? Such is life. I suppose he won't even have time to tell me how Duncan is getting along."

"He's in the same condition I hope to be in soon, married," retorted Mariston. "Now will you please make yourself scarce for a week or two? You've been with Estha for the past two years, but Balkis and I have to make up on lost time."

"Oh, woodman, spare her limbs!" cried Nankivell in mock alarm as Mariston caught Balkis to him again. "Estha, isn't that a disgusting sight? Right out in public, too. Not a bit of decent reticence. I can hardly believe that it is your very proper cousin who is making such a spectacle of herself. I really think we should call Nahum to come and put a stop to it."

"Will you please take poison?" replied Mariston. "This place is entirely too crowded for comfort. About two less would be just right."

"Such words to his old friend, too. Estha, love has a deteriorating effect on some people, hasn't it?"

"Yes, Frank, it has," came in a smothered tone from Balkis. "We're acting almost as silly as you and Estha usually do."

"Bull's-eye!" cried Nankivell. "However, seriously, you had better break away for a moment. A fighting we must go right soon, Worshipful Sir, and you'd better clear the cobwebs and moonshine from your brain. You're likely to need all your wisdom, if any. Also, I have some bad news for you."

"WHAT is it, Frank?" asked Mariston as he settled his arm around Balkis' waist.

"You're planning to get married, aren't you?"

"Sure as shooting."

"I hope you do, but I wouldn't bet on it. Here's the proposition. Balkis is in the same boat that Estha is in. She wears the blue and her marriage is a state matter and one that must be approved by the Master. I have been plaguing Zephaniah for the past two years to consent to my wedding to Estha, but that's as far as I got."

"The dickens!" cried Mariston. "What's his objection?"

"He never exactly refused outright," replied Nankivell, "although if Nahum hadn't been so hot for it, I think he would have. However, he didn't give his consent and put me off, promising an answer after Amos was overthrown and the old order was re-established in Troyana."

"Well, that won't take long."

"I hope not, but it may take a longer time than you expect. To be sure, Amos had no energy left when he launched his last attack, but he may have some now."

"Where would he get it?"

"You saw those men who were firing at us when you came in, the ones you shot down first?"

"Yes."

"Well, those weren't Amos' men, nor were they his allies at that time. Had we been able to march against the lower city at once, the battle would have been short-lived, but this hour's delay worries me. Amos is a crafty old fox and he saw those men. We didn't kill all of them, nor any large part of them. I'm afraid that he'll have sought them out and patched up some sort of an alliance with them."

"Who were they?"

Briefly Nankivell told Mariston of the trip made into the caverns below the lower city and what had been found there.

"Isn't the road blocked for them?" demanded Mariston.

"The road by which we entered their domain is blocked, but unfortunately there are two other paths to those caves. One leads out into the jungles, but the other leads to the lower city. I left the elevator down at the lower level with the door open when I entered there two years ago. To be sure, there isn't an elevator powered, but I am uneasy."

"If the power is off, what can they do?"

"Nothing, I hope, but I'm not at all sure. Those men know a good deal about science as is shown by their weapons. If they find that elevator, they may be able to power it from below. If they have done so, we may find a warm welcome waiting for us in the lower city."

"Hmmm. That won't be so good."

"It won't even be funny, but luckily we have three rifles and lots of ammunition. I held them back for quite a while with one rifle, a pistol and thirty-one cartridges. With our combined fire, we may be able to do something, even if they do meet us."

"Well, time enough to solve that problem when we are face to face with it. There'll be some way out. Meanwhile I've got two years of back kisses coming from Balkis and I'm going to collect right now."

He turned toward her, but paused as his eye fell on a tall stately figure who had approached unseen.

"Nahum!" he cried.

"Bob Mariston!" cried the Junior Warder as he grasped the hand of his friend. "Others will thank you for the aid you brought so timely. Let me tell you simply that I am glad to see my friend again, and to rejoice with him and with my niece in their happiness."

"Oh," stammered Mariston, "excuse me. You're her guardian, aren't you? I ask your permission and your blessing."

"Granted, my friend," replied Nahum. "Granted before it is asked. My earnest prayers shall accompany yours when your petition is offered to the Master's throne. But now war calls us from the arms of love. The Master bids me tell you that the flashtubes are charged and the brethren assembled. As soon as you join us, we will march."

CHAPTER XVII

The End of the Golden Calf

AT the door of the assembly hall, Zephaniah and Ray Willis came forward to meet them. In the courtyard where the desperate battle had raged, four bodies of men were drawn up. The lines of men were brilliant in their blue and yellow robes, with here and there a splash of crimson marking where a brother of the cryptic degree had taken his place in the ranks. The belts of all were hung heavy with flashtubes.

"Here are all that are left of the nobles of Troyana," said the Master. "One of these four bodies will remain here as guards under the command of the Junior Warder. The other three bodies will be under the command of Jereboam, Hosea, and myself. Brother Nankivell will accompany me as my second in command and Brother Willis will go with Jereboam in the same capacity. Worshipful Brother Mariston will go with Hosea and guide him with his wisdom.

"There are three main entrances to the lower city. Each is reached by a shaft in which is a vertical conveyor capable of carrying fifty men. Each body will take a separate shaft and will fight its way through the lower city, meeting in the great amphitheater.

"On the way thither, Jereboam's force will take possession of the Crypt. As soon as its possession is secure, Jereboam will open the Vault so that a continuous flow of energy will be assured. He will start the main converters and will remain there with sufficient men to guard what he has captured. With him go all of the cryptic degree except three. The rest of his party, under the command of Brother Willis, will join us in the amphitheater which is close at hand. He will enter it by the south entrance.

"The detachment under Hosea will seize the main generator unit and start the largest compressors. We will drive the Burden Bearers to the lowest levels and air will be needed at once. Hosea will organize an emergency force large enough to keep the generators and compressors at work and to guard the place. Worshipful Brother Mariston will take command of the rest and make a circle through the city so as to enter the amphitheater from the west.

"Brother Nankivell and I will sweep through the city, driving the Burden Bearers to the lower levels and enter the meeting place from the east. The amphitheater is the place where the heaviest resistance will be met with, if we meet with any at all. All will bear in mind that no more Burden Bearers are to be killed than is absolutely necessary. We have already so reduced their numbers that we will be short of human labor for a generation. Drive them below where we can sort them over at our leisure and mete out suitable punishment to the leaders whom we feel should be made an example of."

"What of Amos, Most Worshipful Sir?" asked Hosea.

"Capture him if you can, Brother Senior Warder, but above all, harm him not. Better it is that he escape for the present and take refuge with his followers than that he be harmed. Such a traitor as he is has never before been known in the annals of Troyana and such a one should be suitably punished. Now does everyone understand the plan and his part in it?"

There was a murmur of assent from the leaders.

"Then may the Great Architect aid and bless us, and may our arms prevail against the forces of sin and iniquity. Brethren, to your posts!"

Under their leaders, the three bodies swung off to take up their appointed tasks. Their paths coincided for a few hundred yards. They came to an intersecting passage and Zephaniah halted them while he spoke to Mariston.

"Your path turns left here," he said. "When you reach the vertical conveyor, fill it with men, set the control for maximum speed and wait. So far no elevators are powered. My detachment will enter the farthest one. As soon as I give the signal, power will be applied to all three simultaneously. In that way we will all attack at the same time and avoid having one body left to face all the forces of Amos. You understand your part of the plan?"

"Thoroughly, Most Worshipful Sir."

"Then go. The power will be on in about ten minutes."

At the next cross corridor Jereboam turned off to the right with his command, leaving the third contingent under Zephaniah and Nankivell to push on alone.

"I am relieved about one thing, Brother Nankivell," said the Master. "I feared that Amos had secured another supply of power and might meet us in the upper city outside the sanctuary. The fact that he awaits our attack below would indicate that he is really helpless."

"I certainly hope so. We've lost enough men already."

"Yes, and they are men whom we can ill spare for they can be replaced but slowly. The Great Architect grant that our losses are at an end."

In silence the detachment marched on. Horizontal conveyors ran through the walls paralleling their line of march, but it was no part of Zephaniah's plan to place power on any devices outside the walls of the sanctuary before he had to. Any power he supplied would be equally at the command of Amos. At last the column paused before a recess in the wall. Before them was an empty vertical conveyor. At a word from the Master, Nankivell and fifty of the nobles crowded into the small space. Nankivell set the control lever for maximum speed downward, at the same time setting the automatic stop which would bring the car to rest at the level of the amphitheater.

"All ready," he reported to Zephaniah.

The Master pressed a button on a box which he carried in his hand. A disc on its front glowed green and Zephaniah spoke clearly toward it.

"Power on, please," he said.

Hardly had the words left his lips than the car shot down with sickening speed. Nankivell caught at the control lever with a groan. Before he had time to move it, the downward acceleration ceased and the car began to slow down. It stopped with a sudden jerk. The heavy stone block which shut it off from the lower city moved aside automatically. Before them lay an empty passageway.

"Come out quickly!" cried Nankivell.

He set the example by springing out into the empty corridor. One man remained in the elevator. As soon as it was empty, the stone block slid in front of it.

"Spread out in a skirmish line!" cried Nankivell.

The men who had come with him ran down the corridor in both directions, dropping prone at five yard intervals. In a moment the stone block slid to one side and another fifty men joined him. It was only a matter of minutes for the third contingent under Zephaniah to enter the corridor. As the Master emerged he turned to Nankivell.

"What was that noise?" he demanded.

"It sounded like a flashtube in the distance," replied Nankivell. "The other bodies are probably engaged."

"Then there is no time to be lost," cried Zephaniah. "Form in column and follow me."

He led the way at a swinging run down the passage. For three hundred yards they met with no resistance. They swung around a corner. Before them were three black-clad figures, evidently sentries. At the sight of the gorgeously attired column, they gave cries of alarm and fled away. The intermittent crash of flashtubes could be heard quite plainly now and several times the sharp crack of a rifle punctuated the noise.

"Here is where we meet resistance, if ever!" cried the Master.

With the column at his heels, he burst into the vast

amphitheater with its seating capacity of thousands. As they passed the doorway, a blinding flash of light filled the hall and they were hurled to the ground by a terrific crash.

FOR a moment they could see nothing. Gradually the scene cleared. On the floor before them lay a group of Burden Bearers evidently caught by the crash which had greeted them on their entrance. Further back stood another larger group, hesitating whether to stand their ground or to fly.

"Charge them!" cried Nankivell. "One good charge and they'll break and run!"

He sprang to his feet and raced across the floor as he spoke, the nobles of Troyana trailing after him. The hesitating group broke and fled at their approach. With cheers, the men following Nankivell raced on. They reached the middle of the great hall. Suddenly there came a sound which froze the marrow in Nankivell's bones. Above the sound of shouting came a sharp hiss. A spark floated through the air from the seats on the opposite side of the hall and made its way toward them.

"Scatter!" he cried. "Scatter out and take cover!"

Obediently they scattered, but not soon enough. The spark burst and thousands of tiny whorls of light floated downward, death in the touch of each of them. Before they landed, inspiration visited Nankivell.

"Flashtubes!" he shouted. "Fire a couple of tubes upward!"

He set the example by discharging one of his tubes into the air. All of the sparks in the vicinity of the discharge died out in darkness. Others followed his example and the menace was temporarily over. Another hiss came from the seats and a half dozen sparks floated up.

"Flashtubes again!" cried Nankivell. "Hit them before they burst!"

The air was torn by the thunder of discharging tubes. Nankivell did not use his. He rapidly unslung his rifle and brought it to his shoulder. Again came the menacing hiss but mingled with it came the crack of Nankivell's weapon. A figure rose from the distant seats and fell forward to the floor.

Again and again Nankivell's rifle cracked. The hissing kept up steadily but the carefully aimed flashtubes of the nobles of Troyana killed the tiny sparks before they had time to burst and spread death and destruction broadcast. There was a momentary lull in the fighting. A dull plop was heard behind them. Nankivell looked around and a hoarse cry of alarm came from his lips. On the dais behind them where stood the Golden Calf was a group of men attired in the dress of the long-sleeping nobles of Atlantis. As he looked, one of them hurled a small round object to the amphitheater floor. There was another dull plop. A cloud of light green gas could be seen emerging from the two spheres on the floor.

Nankivell swung around and leveled his rifle at the group on the dais. Before he had time to fire, a fateful hiss came from behind him. The crash of flashtubes told him that his followers had seen and were combating the menace. He leveled his rifle and fired. One of the figures on the dais dropped, but a volley of the deadly gas bombs came from above. The cloud was perilously close.

"Charge the seats!" came Zephaniah's ringing voice.

The nobles of Troyana turned and charged toward the section of seats from whence had come the deadly sparks. They were within a hundred yards of it when a dozen dull green spheres flew through the air to break in front of them. They were caught between two clouds of the deadly gas.

"To the north!" cried Zephaniah.

They swung to the left and raced toward the north side of the hall. From directly behind them came another hiss and the air was alive with the malignant sparks. They did not pause to reply to the fire but fled toward the north. They had almost reached the north tier of seats when a cloud of black-robed figures rose and swept down on them.

The nobles met the attack with the crash of flashtubes. The front of the attack melted away, but for every Burden Bearer who fell, two rose to take his place. Behind them rolled the deadly gas while overhead the terror-inspiring sparks writhed through the air as if in intelligent pursuit of them.

"Make a stand, men!" cried Nankivell. "It's all we can do!"

He dropped to the floor and cuddled the rifle to his cheek. The group on the dais were still plainly visible. He lined his sights on them and fired. An Atlantean noble fell headlong. He reloaded but did not fire as the futility of it struck him. The deadly cloud of gas was only a few feet away.

A sudden shout, faint and far distant, came from the south side of the hall. Mingled with it was the crack of a rifle.

"Ray Willis!" cried Nankivell, joy vibrant in his voice.

He threw up his rifle and fired rapidly. From the seats where the deadly fire of sparks had rained on them, a fresh volley rose from the air, but mingled with the hissing came the crash of flashtubes and the crack of Willis' rifle. Taken in flank, the entrenched sleepers were doomed.

With a shout, Zephaniah led his men against the wavering Burden Bearers before him. They fought bravely for a moment before they broke and fled in all directions. Nankivell's rifle spoke as rapidly as he could work his bolt and fire. The defeat had been suddenly changed to victory but for one thing. The deadly cloud of gas was creeping steadily nearer. Nankivell began to cough.

"I'm afraid they've got us!" he cried to Zephaniah.

Even as he spoke he became aware that the gas was growing less dense. It seemed to be retreating from them rather than advancing. Above the din of battle he could hear a distant hum and a sigh as of rushing air. He looked inquiringly at Zephaniah.

"We are saved!" cried the Master. "Hosea has captured the generator unit. He has seen our peril through observers and he has started the largest compressors. They will change the air in this hall in four minutes when driven at top speed. Let us attack the dais."

At his call, his men rallied about him and started an advance toward the distant dais on which stood the figure of the Golden Calf. From the west side of the hall another body of men entered and advanced toward them. Nankivell gave a cry of joy. In the lead ran Mariston.

The three bodies met in the center of the great amphitheater. Willis and Mariston grasped Nankivell's hand warmly, but there was no time for congratulations. From the dais came a stir of movement and a dull violet light flashed through the air.

At Zephaniah's command the nobles of Troyana scattered and ran toward the dais. Hardly had the advance started than it ceased. Everyone in the room stood frozen with horror. Through the air, pulsing like a malignant living entity came a sound, a sound of fear and terror. Distant and yet near, it filled the hall, hammering away at the brains of the hearers as though drilling holes through the living tissue.

"The Drums!" came a wailing cry. "The Hooves of the Calf! Woe! Woe! Woe!"

"Damn!" shouted Willis. "Amos must have snagged some power somewhere. Shoot, men, shoot all you know. Good work, Bob, the Maristons always could shoot. Where's Nankivell? Oh, there you are youngster. Keep your eyes open, they'll charge in a minute!"

He threw up his rifle and fired again and again with deadly accuracy. The violet ray was roaming over the floor of the amphitheater. Fully half of the nobles of Troyana were standing frozen in their tracks, paralyzed by the strange ray. Willis leaped to his feet.

"Come with me, Frank!" he cried.

With Nankivell at his heels he turned and raced back toward the seats. Nankivell realized his strategy and gave a whoop of joy. In a few moments they had reached the seats and were climbing rapidly upward. From the elevation they had gained, they could overlook the dais.

"Now, youngster, don't waste a shot!" cried Willis as he dropped prone. "You fire at the men, I'll take their damned machine!"

NANKIVELL fired steadily. The range was not great and his weapon took a terrific toll of the Atlantean nobles. Willis fired slowly, taking a careful and deliberate aim with each shot. The third time he fired, the violet light winked out.

"Hurrah!" cried Nankivell.

"Don't cheer yet, that may be only a stall," said Willis grimly.

He reloaded and fired again. A blinding flash came from the dais and the device from which had come the violet beam burst into fragments.

With shouts of triumph the handful of Troyanans who had escaped the deadly paralyzing ray charged at the platform. The remnants of the court of Atlantis met them, weapons in hand. For a moment the fight was an even one, but above the ring of steel on steel came a steady crack-crack-crack as Mariston's pistol woke to life.

Willis and Nankivell ran down the tiers of seats and scurried across the floor. They raced up the steps to the dais to find the fight over. The last of the sleepers lay prone on the platform. Barely thirty of the nobles of Troyana were still on their feet.

"This battle has cost us dearly," said Willis as he looked around the amphitheater where hundreds of blue and yellow robed figures lay sprawled on the floor.

"Those men are all right," laughed Nankivell. "That purple ray paralyzes, but it doesn't kill. A reduced charge from a flashtube will bring them around in good shape. We've won with little loss."

He advanced toward Zephaniah. As he reached his side, the Master raised his hand and pointed dramatically. On the altar at the foot of the huge misshapen Golden Calf stood a solitary figure attired in a robe of brilliant crimson heavily embroidered with gold. On his breast there flashed the golden jewel of a Master.

"Amos!" cried Nankivell.

He raised his rifle but Zephaniah placed a restraining hand on his shoulder.

"Lower your weapon, Brother Nankivell," he said. "The archtraitor must be taken alive."

He waved back his followers and advanced alone toward the altar. Amos watched him with a grim expression of malevolence on his face.

"Amos!" cried the Master. "The fate which Gedaliah prophesied has overtaken you. Alone and helpless, you are left to face the wrath of the Master whose authority you flouted and whose place you strove to usurp. You have come to the end of your treachery. Lay down your arms, if you bear any, for further resistance will not avail. The Council will decide your fate."

Amos drew himself up and answered in a ringing voice which filled the entire hall.

"Zephaniah!" he said. "Upstart who sits in the blue throne which is mine by right, victory will avail you nothing. Defeated, I will yet bring victory from defeat. Hearken! The Hooves of the Calf spell your doom!"

In the silence the demoniac drumming again filled the air until it seemed that the heads of the hearers would burst from sheer agony. The sound died down for an instant and Amos' voice could be heard again.

"For you, Zephaniah, the Calf has called. For all your vaunted wisdom, there are things of which you are ignorant. Advance to the altar, if you dare, and invite the Calf to choose between us."

Fearlessly, Zephaniah strode up to the altar. Face to face he stood with Amos. On the breast of each of them was a symbol of power and authority. The crimson robes of Amos and the blue robes of Zephaniah each bore the same symbols of majesty.

"At last, usurper, we stand face to face," cried Amos. "Let the Calf judge between us and, mayhap, take us both to our doom."

"Look out, Zephaniah!" cried Willis.

His pistol flew up and spurted flame, but he was too late. Amos had stooped and touched a button on the base of the image. There was a blinding flash and an explosion which shook the hall. The massive figure of the Golden Calf rose in the air for an instant and then toppled and fell.

Full on the two men it landed, crushing them together in death. The grotesque figure fell apart in fragments. Its mission ended, the false god set up by the nobles of Troyana for their debased slaves to worship had ceased to exist, carrying with it in its destruction both the renegade who had tried to turn it to its last base use and the faithful Master of Troyana who had upheld to the death the worship of the Great Architect of the Universe.

CHAPTER XVIII

The New Master

"I DECLARE this Council duly constituted," announced Bob Mariston. "Brother Scribe, declare the number of the brethren."

"Of the purple, two. Of the crimson, seven. Of the blue, one hundred and three. Of the yellow, three hundred, seventy and one. Of the black, two thousand, one hundred, thirty and five."

"Brother Warder of the South, your report."

"Good, Worshipful Sir. Complete order has been restored in the lower city and your sublime rule is established as it was before the traitor Amos raised the standard of rebellion against the oriental throne. The Vault is open and regular supplies of energy are assured. While undermanned, the Crypt functions properly. I have received reports from the new Warder of the Outer Ways that he has recruited six hundred Cowans to serve us. He also reports that twenty of the three and thirty eggs of the *Guardians of the Jungle* have hatched. In another year, the full eleven packs will again range the jungles to guard our domain from invasion. Five parties, attracted by gold, have entered our territory. None of them will return. But for our paucity of numbers Troyana is as it was before the rebellion. The last of the sleepers has been sought out and replaced in his cylinder and again sleeps the sleep he chose and from which there will be no second waking."

"It is well. Brother Warder of the West, your report."

Nahum rose in his place.

"Worshipful Sir," he announced, "the required thirty days have passed since our last Master passed to his rest and reward in the eternal halls of the Great Architect. During that trying period, you have ruled wisely and well, but your period of authority is at an end. I declare that the first duty of the Council is to choose a successor to our lamented brother, Most Worshipful Zephaniah."

Mariston rose and laid down the scepter which he held in his hand.

"To you, Warder of the West," he said, "I surrender the emblems of imperial authority and the oriental throne which I have unworthily filled."

Nahum walked the length of the hall and seated himself in the throne which Mariston had vacated. Mariston took a seat by his side.

"A new Master must be chosen," declared Nahum. "What is the will of the brethren?"

Mariston rose to his feet.

"Brother Warder," he said, "there is but one man here who should be chosen to fill the throne in the east. You have served through every office in the Council save the highest, and it is fitting and proper that you should now serve in that."

There was a murmur of applause but Nahum silenced it with raised hand.

"Just before this Council was constituted," he said with a smile, "I was informed by Brother Jereboam that I had been chosen to fill the vacant place in the ranks of the Keepers of the Sacred Treasure. No wearer of the purple may be Master, so another must be chosen. What is the will of the brethren?"

Jereboam rose.

"Brother Warder," he said, "I agree with Worshipful Brother Mariston that there is but one man here who should logically be called to the vacant throne. But for one brother here, the glory of Troyana would be no more. This brother has filled in past years the dignity to which he should now ascend. During the past month, he has filled the oriental throne both wisely and well. For the throne of Most Worshipful Master of this Council and ruler of Troyana, our choice should be Worshipful Brother Mariston."

A roar of applause swept the room. Mariston was on his feet in an instant.

"What I have done is nothing," he cried. "If anyone has saved the city, it is Brother Nankivell. The vacant throne—"

"Nothing doing, Bob!" cried Nankivell. "You know that I haven't either the brains or dignity enough for the oriental throne. I agree with Brother Jereboam. You are the man for it."

"Brother Warder of the South," cried Nahum, "declare the will of the brethren."

"Your words are their will, Brother Warder. It is the unanimous desire of the brethren that Worshipful Brother Mariston be declared Master of the Council."

Amid the ringing cheers of the Planners, Nahum took Mariston by the hand and seated him in the blue throne.

"Let me be the first to declare my loyalty, Most Worshipful Sir," he said. "It is no surprise to me. You were the logical choice."

As the cheering died down, Mariston grasped his scepter and rose to his feet. His eyes twinkled as he looked around the hall.

"The throne of the Master carries grave responsibilities," he said, "but it also carries privileges. Long ago I knew what would be my first decree if I occupied the oriental throne. Brother Nankivell!"

Surprised, Frank Nankivell rose to his feet.

"Most Worshipful Sir," he said.

"I find on the trestle board a petition of yours addressed to the oriental throne," said Mariston. "In it you crave my permission to be united in marriage with Estha, the granddaughter of our Warder of the West. Several times this petition has been considered and postponed. It is now my order that this, your prayer, be granted. Let the decree be entered!"

A volley of cheers rent the air while Nahum stepped down and faced Nankivell.

"My son in fact!" he cried as he gripped Nankivell's hand.

* * * * *

Ray Willis had got that far in his disconnected and often incoherent story on the last night the fever had him. When he awoke in the morning, he was rational and remembered nothing of his strange adventures. We tried to piece it out later, but he could never remember anything of what followed. He left Troyana once by his own choice, and it is only natural to judge that he left again of his own free will and accord. Mariston would hardly refuse him permission. He had no magnet to hold him in the city as had Mariston and Nankivell. I presume that the decree entered by Zephaniah on Nankivell's return to the city was enforced and that was what was the matter with his memory. Of that, you who have read the story can judge as well as I can. I carried out my part of the bargain and left Ray Willis in Belem with his diamonds intact.

That was four years ago. And I have never heard from him since.

THE END

COSMIC STEEPLE-CHASE

(*Continued from page 69*)

chemical which started the disintegration of the explosive within the body—literally broke the enemy to atoms, scattering the whole into the Universe as dust. Bellant is no more! Alice lives. Harry! Come!"

"Is this true?" shouted Jameson as he sped after Elam.

They turned into Elam's laboratory and, proceeding to one side, Elam opened a horizontal secret panel.

With a shout of joy, Jameson reached for his sweetheart—sleeping there peacefully, and oh, so beautiful to look upon.

"But the reviving drug!" Jameson cried. "Bellant has it all!"

"Not at all. He never had any of it. I have known for two years of this plot. I wished you to be the means of destroying Bellant—he is not a type which should survive. I knew that if you knew Alice to be alive here, you might weaken and tell Bellant the truth. He would then never have plunged the needle into the image of Alice—and have destroyed himself. I changed the image for the real Alice long ago for I didn't know when Bellant would strike. I was afraid you would note the substitution the last time we inspected the passengers, but I had to find out if Bellant would know the difference between the real and the image as they lay sleeping. The servant served its master well."

"The drug—I wish to awaken Alice."

Great was the joy of these two as the girl came to life once more—almost from the dead, it seemed to Harry.

Elam left them, and the rest of the journey the ship was his to manage, for the two were busy together.

"We have a request to make of you, Elam," said Alice on the day of their arrival on Earth.

"Granted for the asking," Elam replied.

"Harry and I are to be married when we reach the Earth. Will you be our best man?"

"I will be more than delighted," replied Elam, and with a sly smile he added, "and for a wedding present I have grown in my laboratory two servants for you—a wee Alice and a wee Harry—for use until you have a wee Alice or wee Harry of your very own!"

And they were, and sometime later, they did!

THE END

An Anniversary

¶ The April, 1932, issue of AMAZING STORIES marks the beginning of the seventh year since this unique magazine saw the light of day. It was a striking departure from the hackneyed plots, detective stories, True Stories, et al. Here was something different! After six years—despite the changes and the depression and what not—it remains definitely "something new," although it has become a familiar publication to more than three or four hundred thousand boys and girls and men and women of varied ages. It is still different—even from the amazing attempts at imitations which have recently bobbed up.

¶ And with it all, AMAZING STORIES remains, as its vast number of friends terms it: *The Aristocrat of Scientific Fiction.* It has retained three important factors: AMAZING STORIES is instructive, inspirational and entertaining. The editors believe that actions speak louder than words, and they are sustained in their belief by the phenomenal success of the magazine. We do not assure and reassure our many faithful friends that our policy remains the same. Judging from the number and the kind of letters we receive, we feel we do not need to remind you that this is *your* magazine and that we can only do best by giving *you* what *you* want.

¶ Our mounting circulation figures and our increased advertising justify us in our natural assumption that we *are* pleasing *you* to an ever-increasing degree.

¶ However, we have not become complacent and self-satisfied. We continue to be humble. We know there is still much to do and we realize that we can continue to improve and grow only with *your* help.

—THE EDITORS.

In the Realm of Books

Highbrow Science Fiction

"Brave New World," by Aldous Huxley. Published by Doubleday, Doran & Co., Inc., Garden City, L. I., New York. 311 pages. $2.50.

IT seems that Mr. Huxley either dislikes science, particularly its possible future development, or that he does not believe in science. At any rate, the book gives a lot of decidedly undeserved credit to one Ford, whose highly standardized sweatshops apparently led Huxley to the belief that Ford is the originator of standardization. Huxley even goes so far as to call the era in which the book takes place; "A. F.," probably meaning "Anno Fordis," and to give a high dignitary of his Utopia the title "Fordship" and also use the words "By Ford" or "Oh, Ford," if his characters indulge in mild swearing. In other words, Ford apparently is elevated to the position of demi-god, and his book "My Life and Work" replaces the Bible.

The book starts with a description of the "Central London Hatchery and Conditioning Centre" where, over the entrance, the New World's Motto "Community, Identity, Stability" is prominently displayed. Here the new world's children are produced, strictly artificially.

By Hypnopaedic machines the children are taught platitudes, to make them happy in whatever station in life they are destined to fill. All children are also conditioned to look upon death as something natural and they are taken regularly to morgues and also to hospitals of the dying and are rewarded by chocolate eclairs after having witnessed the death of a few New World citizens.

Now there appears a character, one Marx, an Alpha plus, but he has queer impulses, not at all standardized, because someone made a mistake when he was being conditioned by adding too much alcohol to his blood surrogate. He is attracted toward Lenina, and he, being an Alpha plus, obtains one of the few permits to visit a reservation of savages in New Mexico, where life is carried on as it was before the era of Ford.

Here they find Linda, who has a natural born son.

The son, John, knows nothing of civilization and as permission is granted to bring Linda and her son to London, a sensation is created.

Lenina develops a passion for John, but he repulses her, even when she seductively approaches him. In despair John finds refuge in an abandoned lighthouse where he finally hangs himself to escape Huxley's Brave New World.

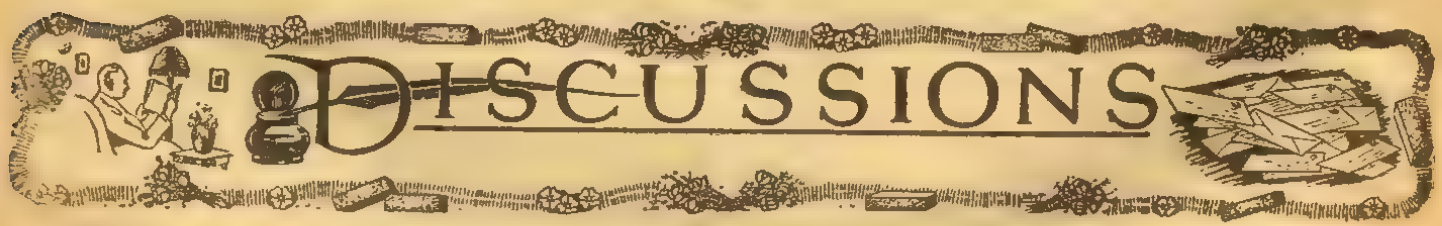
From the point of view of the scientific fiction fan, this book is a decided flop. Its contents, which at times almost become obscene, but are at all times supercharged with sex, will undoubtedly bar it from circulation in Boston, but the book may serve to call the attention of a great many readers to the fact that there is a class of fiction in existence which deals with scientific subjects.—C. A. B.

What Do You Know?

READERS of AMAZING STORIES have frequently commented upon the fact that there is more actual knowledge to be gained through reading its pages than from many a text-book. Moreover, most of the stories are written in a popular vein, making it possible for anyone to grasp important facts.

The questions which we give below are all answered on the pages as listed at the end of the questions. Please see if you can answer the questions without looking for the answer, and see how well you check up on your general knowledge of science.

1. What rays are present in sunlight which are not found in the light of ordinary incandescent lamps? (See page 27.)
2. What metal is a characteristic portion of an ultra-violet electric lamp? (See pages 27 and 28.)
3. What causes sunburn of the human skin? (See page 27.)
4. How is sunstroke (heat exhaustion) sometimes diagnosed? (See page 28.)
5. What is to be said about the formula of formaldehyde? (See page 28.)
6. What is a theory of plant action on the atmospheric carbon dioxide? (See page 28.)
7. Can ultra-violet light pass through a glass window? (See pages 30 and 34.)
8. What must the bulb of an ultra-violet ray lamp be made of? (See page 35.)
9. What is the name of the fourth planet, referring to its orbit? (See page 44.)
10. What is the name of the third planet? (See page 44.)
11. Describe the Lorenz-Fitzgerald theory. (See page 55.)
12. How could the growth of the human body be affected? (See page 67.)
13. What parts of the animal system are related to growth? (See page 67.)



In this department we shall discuss, every month, topics of interest to readers. The editors invite correspondence on all subjects directly or indirectly related to the stories appearing in this magazine. In case a special personal answer is required, a nominal fee of 25c to cover time and postage is required.

AN AMERICAN CORRESPONDENT WANTED

Editor, AMAZING STORIES:

After reading Meek's "Submicroscopic," it seemed to me that Meek had overlooked certain details. They say that *plus* or *minus* infinity cannot be reached, yet the machine stopped shrinking. Also, by the way Meek describes the sinking it would seem that Ulm was only several inches under the surface of the earth. If this were so, it would have been squashed flat by being walked on.

A couple of friends 'round our way have decided that serials should be abolished, and two complete stories put in instead of each part of the serial.

I wonder if any American lad would like to correspond with me? I am 15, just leaving school, and have a job as carpenter.

L. Bills,
2 Archbold Rd., Roseville,
Sydney, N. S. W., Australia.

(We will leave your letter to Captain Meek to answer. He has already done so with another letter. Captain Meek is a highly educated man, an officer in the United States Army and one of our most esteemed writers, but remember that you must give considerable latitude to what are specified as "amazing" stories. Otherwise they must necessarily deteriorate. We are quite sure that you will have little trouble to find some American who would like to correspond with you. You are not far from 8,000 miles away from us on a straight line, but a lot more measured on the great circle of the earth's surface. That ought to tempt correspondents.—EDITOR.)

(Continued on page 88)

What Will You Do With $3,000.00 Cash If I Give it to YOU?

I WILL PAY $250.00

Just for the Winning Answer to this Question

I am going to give $3,000.00 to some deserving man or woman who answers my announcements. *You may be the one to get it!* But, before I give it to anyone I would like to know that the money will be used wisely. WHAT WILL YOU DO WITH THIS FORTUNE IF I GIVE IT TO YOU? Just answer this question—tell me in a sentence of 20 words or less what you would do with the $3,000.00—*nothing more to do toward the $250.00 cash prize!* Sounds easy? It is easy! The first answer that comes to your mind may win the prize. Nothing "fancy" is needed—just tell me in plain words what you would do with the $3,000.00.

20 SIMPLE WORDS WIN $250.00

Nothing More for You to Do!

Costs nothing to win, nothing to buy—no selling—no puzzles—$250 Prize given just for an answer to my question

There is no way you can lose. Simply tell me what YOU will do with $3,000.00 if I give it to you. The prize for the winning answer is $250.00. Just sending an answer qualifies you for an opportunity to win $3,000.00 in final prize distribution. Think what an amazing opportunity—why, many people work hard for a life-time without ever having such a vast amount of money as you may now win.

Think, NOW, How You Would Spend $3,000.00

Would you start a business of your own; would you invest in bonds; would you pay off a mortgage on your home or buy new furniture and clothes? Maybe you would use the money for education. Just think what $3,000.00 could mean to you! Think of all the things you could do with it. Plan now—then write your answer—rush it to me at once. Yours may easily be the winner.

BE PROMPT! I Will Send You $1,000.00 Cash Certificate AT ONCE!

One thousand dollars EXTRA if you are prompt and win first prize in final distribution. So don't delay. Nothing more to do now or ever toward getting answer prize and qualify for an opportunity to get your share of over $5,000.00 to be given away. EVERY PERSON WHO TAKES AN ACTIVE PART WILL BE REWARDED IN CASH . . . Think what you would do with $3,000.00—write your answer and rush it to me. SEND NO MONEY . . . Nothing to buy or sell to get big prize for best answer. No "puzzles," "number paths" or "lucky numbers" to win over $3,000.00 cash. BE PROMPT. I will send you $1,000.00 Cash Certificate AT ONCE.

Hundreds Have Won

Throughout the past year we have given financial help to hundreds of deserving people in all parts of the United States . . . we have given away hundreds and thousands of dollars in prizes. Thompson just won $625. Viola Lauder won $500. Hundreds more made happy with huge prizes and cash awards. Now is YOUR opportunity—ACT TODAY!

RULES

Only one answer accepted from a family. Use your own name. $250.00 given for best answer to "What Will You Do With $3,000.00 If I Give it to You?" Answers must be postmarked not later than May 15, 1932. Judges will consider answer only for practical value of the idea, construction and spelling. Neatness or ingenuity of submitting answer not considered. Duplicate prizes will be given in cases of duplicate winning answers.

RICHARD DAY, Manager
909 Cheapside Dept. 400-D Cincinnati, Ohio

Just Sending Answer Qualifies You for Opportunity to Win $3,000.00

Some say I am wrong. They say that giving money to people will not help to bring back prosperity. They say that the people who get money from me will spend it foolishly. Now I want to find out. I am going to give away over $5,000.00. Someone is going to get $3,000.00, all cash. If I gave you the $3,000 what would YOU do with it? Tell me in 20 words or less. Just sending an answer qualifies you for the opportunity to win $3,000.00. If you are prompt I'll send you a $1,000.00 Cash Certificate AT ONCE! Here is an opportunity of a life-time. Costs you nothing to win. Rush your answer today. Send no money—just tell me what you would do with the money if I gave you the $3,000.00 that I have promised to give to some yet unknown deserving p[illegible]

Richard Day

Use the Coupon or Write Letter With Your Answer

FOR CASH PRIZE

RICHARD DAY, Manager
909 Cheapside, Dept. 400-D, Cincinnati, Ohio

If you give me the $3,000.00 prize I will use it as follows

(Write your answer plainly in here, in 20 words):

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_____

*Name*_____

*Address*_____

*Town*_____ *State*_____

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DR. SMITH ACCEPTS MISS ROBBS' CHALLENGE

Editor, AMAZING STORIES:

"Gadzooks!" quoth the assemblage of sprightly and courteous gentlemen—and no small sprinkling of fair and beauteous damsels—assembled to witness the March joustings, "Dame Robb doth wield a trenchant pen!"

For they had seen that embattled maid cross lances with Sir Smith, that gray and war-torn old veteran, and had seen him unhorsed. Helmet here, buckler there, greaves and fragments of armor scattered hither and yon, the doughty knight lay prostrate upon the sand, while his charger galloped madly away. But, though dazed and demoralized by the force of his overthrow, no bones are found to be broken and old "Doc" gathers up his scattered impedimenta and turns painfully to continue the battle afoot. All of which is a somewhat verbiose preamble to the statement that Richard Seaton is still willing and able to defend his customary mode of speech.

Miss Robb is clever. She writes forcibly and well, and I am gratified indeed that such a one pays me the compliment of enjoying my efforts. I must admit that by her judicious selection and concentration of words and expressions from my stories she has composed a sour symphony indeed. But when it is considered that she has culled those expressions from some two hundred fifty thousand words, it becomes clear that her picture is not quite in true perspective. In the same line of thought, I may be allowed to point out that while a dilute solution of vanilla is pleasant to the senses, yet the concentrated 20X extract is so violently nauseous as to be almost unrecognizable.

Before I proceed to a general defense, I will answer Miss Robb's one direct question. Yes, Miss Robb, I can explain that point. I will point out first, however, that you are wrong in your statement that not a single one of the foreigners spoke English as Seaton spoke it. Dunark spoke precisely as Seaton did, because their brains had been imprinted one upon the other. The others did not speak as he did because he taught them pure English instead of the sort of language he himself used in his every-day life—he taught them the form of speech he and other educated men used in public.

Now to the defense. Concerning repetition, that is deliberate. If Miss Robb will do a bit of observing, she will notice that certain expressions are characteristic of certain men, and that in every-day life those expressions are repeated over and over again. In Seaton's conversation I drew faithfully a living scientist, a Ph.D., in chemistry, word for word. I deliberately so wrote Seaton's character and personality into those stories; partly to lend verisimilitude to a highly improbable tale, but mostly in protest against the stereotyped, stilted, and utterly unnatural conversation forced upon the unfortunate scientists portrayed in all too many stories. For I have known personally, have worked with and have played with some hundreds of highly trained specialists in science, whose degrees use up the alphabet, and most of them, in their everyday conversations with friends and fellow-workers, talk like human beings. Most of them really *are* human beings. In fact, one eminent man—whose name most of you would recognize if I were at liberty to give it—swears like a pirate upon the golf links and in his conversation habitually mixes in the same sentence words which drive college graduates to the dictionary and the latest current slang. I might also add that the man from whom Crane was drawn is one of the few scientists of my acquaintance, who never lapses into colloquial language when talking in small, friendly groups. Scientists as a class can, and in public generally do, choose their words with care; but in their laboratories they do not, and the purported intimate conversations of the scientists in many stories not only bores most of us to extinction, but also destroys in great part the illusion of reality which the authors are trying to create.

So far, I have been upon firm ground. I have known what I was talking about, having made a large enough number of observations so that the probable error in my result is small. However, when I attempt to defend my use of the term "cuddle-pup," to which Miss Robb objects so vigorously, I cannot fall back upon the law of averages, since my romantic experience has been limited, but must cite the results of only one series of experiments. This, of course, is indefensible from a scientific standpoint, and is justifiable only by the fact that since the census enumerator undoubtedly counted Miss Robb as only one individual, her ideas should not be allowed any more weight than those of the subject of my experiments—my wife.

I have been married to that subject for probably as long a time as Miss Robb has lived. In spite of that, we are still in love with each other—so much so that we play together as a twosome, by choice. And lest Miss Robb conclude that the subject must be in some sense abnormal, I will adduce the following data, all of which may be proved:

In golf, she shoots around 90 consistently (she has been women's champion of our city for six or seven years), is an excellent swimmer, and quite an athlete generally. She is a splendid dancer, and has never known what it is like to be a wall-flower. She is also able to hold her own in club debates and discussions which call for serious reading and original thinking. While she is too old-fashioned to smoke cigarettes or to drink alcoholic liquor, she has so handled things that we and our children enjoy a real home life.

Now I have called this subject "cuddle-pup" (and many other things not mentioned in my stories) for years, with no unpleasant results. Therefore, I felt no hesitation in having my hero use such terms. It may be, however, that that particular expression carries a connotation of vulgarity to the younger generation which it does not carry to me, and which it most emphatically was not intended to carry to anyone. If so, and if there is expressed in these columns any general sentiment against such pet names, I shall certainly refrain from using them in my stories henceforth.

Edward E. Smith, Ph.D.

THE ATOM; RADIUM ON WATCH DIALS

Editor, AMAZING STORIES:

Almost every letter in "Discussions" contains some slam for either the magazine, the authors, the quality of the paper or the stories. What do they want for a quarter? A magazine as large as Webster's dictionary? As for the stories in the magazine. What do they read them for, if they don't like them? You say, Mr. Editor, that you want criticisms as well as compliments. How come?" You can't suit everybody. Somebody wants stories by this author, paintings by this artist and reprints. Somebody disagrees entirely with him, and pretty soon you have a war all printed in Discussions. I can't figure it out. Can you? But that's that. Let's get technical.

I understand that every element is composed of atoms, molecules, electrons and minute particles of all. I also understand the electrons and the protons are positive. Now suppose the polarity of the electrons could be changed from positive to negative; would not the element which they formed be disintegrated? I learned that like charges of electricity repel and that unlike charges attract. Would this apply to the protons and electrons? Again supposing that the electrons could be changed to protons, and the protons to electrons, would not the element which they formed become different one?

Now for just one more question.

A fellow was arguing with me that the dials of watches are painted with radium. I said it was phosphorus or a like substance treated with radium, but that there was no radium used in the substance, as radium is almost priceless. Who is right?

Clifford Myers,
35 Moy Street,
Providence, R. I.

(We are glad indeed to print your very interesting letter. You have hit the nail on the head, as the proverb has it, in what you say about the impossibility of pleasing everybody. Still, criticism is helpful and we aim to please. You are a little confused in what you understand about the composition of the elements. As elements exist, they are molecules. In most cases each molecule contains several atoms. The atom is supposed to contain a nucleus made up of positive particles, as we may express it, of electricity which are called protons. Around these, in a sort of reproduction of the planetary systems of the world, negative particles of electricity, called electrons, circulate. In most of the elements there are what are called bound electrons in the proton. Thus each atom is a little planetary system. How long this view of the atom is going to hold is a matter of pure conjecture. There is undoubtedly a minute quantity of radium in the watch dials to which you refer. The only way in which radium is kept available for mankind is that it is used in extreme dilution and is actually so powerful that this dilution does not reduce its action to a useless basis.)

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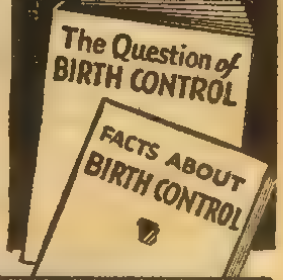

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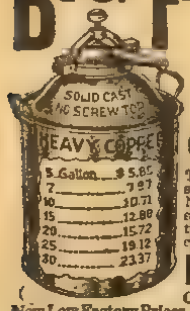

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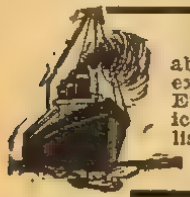

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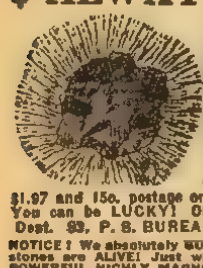

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THE JANUARY ISSUE SCORES TREMENDOUS HIT

Editor, AMAZING STORIES:

Shall I burden you with inadequate superlatives in praise of the January issue of A. S.? None would suffice.

I have on file the complete set of A. S. and every other science fiction magazine ever published, and with no attempt at false exaggeration let me say the January issue of A. S. surpasses any other issue of science fiction in any magazine ever published!

The cover: The blending of color harmonies and the exactness of detail in this remarkable drawing raises Morey into a class with Paul, if not higher. The colors are not glaring, yet the cover impresses one with its force and power.

Power, that's it! The picture describes the story "Power," the story "Power" is equal in merit to the painting of "Power." The two coincide in the *n*th degree of perfectness.

The editorial is worthy of Dr. Sloane.

"Tumithak of the Corridors" is one of the finest stories ever printed in the pages of A. S. The story is concisely written and has none of the marvelous escapes by inexperienced young men against hundreds of thousands of enemies, thus saving their country in the nick of time. This fault is all too prevalent. It does my heart good to see none of it in this issue of A. S.

If the following "Lemurian Documents" are as well written and as interesting as "Pygmalion," I have no protest coming.

As yet I haven't read the "Inevitable Conflict"—I expect it to be as excellently written as the other stories in this issue.

If I were giving the mag. a percentage as to quality, I'd say it is 97 per cent perfect. A few reprints once in a while or a Reprint Annual would supply the other 3 per cent.

I cannot say who is my best author, as it is too difficult to choose among the many excellent ones on your staff.

I'd like to see a story from the pen of A. Hyatt Verrill, and Merritt. You've certainly neglected them.

If any readers need back copies from 1927 and up, I'll be glad to supply prices and full information on request. I welcome letters on STF. anyway.

By the way, I notice the "A" in AMAZING on the cover has a star in it. It deserves to be there. The magazine is an all-star issue from cover to cover!

Arthur Berkowitz,
768 Beck Street,
New York City, N. Y.

(Thus far the January issue seems to have scored a unanimous hit. We haven't had any disapproval yet, but we're still hopeful. It seems too good to be true. But wait and see what is coming!—EDITOR.)

THE TEMPERATURE OF INTERSTELLAR SPACE. THE ABSOLUTE ZERO

Editor, AMAZING STORIES:

I write this letter to tell you the impressions I get from AMAZING STORIES.

As a general thing, I enjoy the stories, but I think the scientific errors in them are very misleading. They give a false impression of science and of the universe. Personally I enjoy trying to find how many errors there are in the stories. It is interesting to see whether or not I can detect them.

However, I do not condone the false impression they give. As an example of one of the errors commonly made in the interplanetary stories, I will point out that most authors speak of absolute zero as though all interstellar space were at that temperature. This is a false assumption, for absolute zero does not exist anywhere in the universe. It is a scientific term for an imaginary and unattainable scientific conception which can be approached infinitely closely, but can never be reached.

Mary V. Tuckerman,
Garfield Memorial Hospital,
Washington, D. C.

(Remember that what you may consider errors in a story may be simply a stretching of facts, as there is danger that by rigid adherence to the facts of today, disagreeable element of dryness might be introduced into our pages. Our authors should be permitted, we think to stretch things a little. The absolute zero is an abstract subject about which our present knoweldge is limited. Tell us of any more statements which you regard as scientific errors, distinguishing between them and the needs of a fiction-writing author.—EDITOR.)

AN INTERESTING LETTER FROM ONE OF OUR AUTHORS. THE INTERNATIONAL SCIENTIFIC ASSOCIATION.

Editor, AMAZING STORIES:

An interesting consideration has recently occurred to me, which may prove of interest to a certain class of readers, and may offer material for a story by one of the writers better trained in higher physics than I—Dr. Smith, Dr. Breuer, or John W. Campbell, Jr.

We start from page 69 of Eddington's "The Nature of the Physical World." Discussing "Time's Arrow," the thing that makes us sense past and future, he says: "If . . . we find more and more of the random element in the state of the world, then the arrow is pointing toward the future.; if the random element decreases the arrow points to the past." Again, page 74, he says "the practical measure of the random element which can increase in the universe, but can never decrease is called *entropy.*" On page 78, he says that when the final equilibrium is reached, when "shuffling" is complete, "we lose time's arrow." There is no past or future. Time exists, but does not pass. The universe is static, in the famous *wärmetod.*

Let us summarize this. Entropy was introduced to science as a useful, if rather mysterious function in thermodynamics. Like most such functions, its use has since then enormously increased. Let it suffice to confirm its significance in the present problem. It is this: if entropy (randomness or "shuffling") increases, we are moving toward the future. If it decreases, we are going into the past of the system in question. And in the far future the shuffling will have reached its maximum in utter disorganization, and Time will cease to flow. The universe will be static—run down—ended.

Now, as has often been done before, consider Time as a stream. In some places the speed of the current is greater or smaller than in others, and in the end it flows into a stagnant, Timeless inland sea.

Good enough. Here we are, in our part of space, drifting along at a definite speed. Somewhere else the flow is swifter, relative to our speed, and Time passes into the future more rapidly, entropy increases faster. Elsewhere the reverse is true, and relative to us Time lags. If we were to pass into the first, swifter system, and then return to our own, we might live a lifetime there for a day or an hour or a second of our Time. Returning from a part of Space, where Time flows more slowly than in ours, the reverse would be true. A day of life there might be centuries here. We would land far in the future.

At first sight, this might seem a means of Time-traveling, but it is not. Time lost is not regained. We can live a life-span in the faster world and return to Earth decrepit, feeble oldsters, while our little nephew has been aging from five to six, months, or years, or even days. After a few hours of pell-mell adventure in the slow world, we return to find our Earthly lives lost for good, and Earth celebrating the holidays of five thousand or ten thousand years hence.

Do such places in Space exist? Have we evidence to show that such things are possible? Eddington supplies one example himself. Where there is perfect equilibrium, where shuffling, entropy, has reached a maximum, as in the interiors of some stars, Time will stand still. But what of the others?

Remember, this speed of Time-flow is relative to whatever reference we choose—Earth's rate, in our case. Looking into a part of the Time-stream where the flow is slower, we drift past a floating observer of that world, into his future, where disruption has increased, and, to us, processes that have a definite rate in our world are happening faster there, are disorganizing faster. For example, evolution progresses faster, atoms disintegrate faster, men die sooner. The stars are holocausts of disintegration and disorganization, and if their Time flows slower than ours they should approach some state where there is no flow at all, an equilibrium. We know such "closed" stars, and Eddington shows us that there Time stands still.

The opposite case, of faster flow, remains. The observer in that world is passing our instant, and his past is coming toward us. We seem to move into his past. The processes of his world seem reversed to us. Life devolves, men grow young, *and atoms are born.* One of the newest facts of physics is Millikan's discovery that the cosmic rays indicate the building up of atoms somewhere in the universe! For

the purposes of scientifiction, at least, I think the likelihood of our proposition is established. It remains for Dr. Breuer, or Dr. Smith, or Mr. Campbell to develop the idea in a story.

There is another consequence of this idea of shuffling as measuring the passage of Time, if we preserve the strict analogy with a pack of cards that Eddington uses less strictly. Such a pack will approach a condition of complete disorganization, but once there, if the shuffling continues, there is no choice, but to become more organized, to travel back in Time. That can certainly be worked up into a useful mechanism. Also, it is *possible* by repeated shuffling to obtain a completed sorted pack again. Such an occurrence has a definite, calculable probability, small, but not zero. Suppose that should happen to the universe. It would return to its initial state at "creation," and there would be a nearly infinite number of possible futures open to it. If the something that produces shuffling in the universe keeps on, the *wärmetod* need not be a real death, and, even before reaching that static state, the universe may be reborn and pursue any one of an enormous number of futures.

I have one word to add, with regard to the International Scientific Association. Unavoidable troubles necessitated reorganization and consequent upheaval during the past year. This is still going on, but order is being brought out of chaos. However, the office of Secretary has changed hands several times at very short notice, and, as a result of the sum total of these disturbing elements, a large number of applications from the United States, Canada, and Europe have gone unanswered. As Foreign Director and Acting Secretary, I now want to apologize to all who have not been answered, to beg them to have patience and to write again if they are still interested, and to assure them that in any case their letters will receive personal replies before very many weeks have passed, as soon as the reorganization is complete and the work of the various offices can be redistributed. I say this particularly to our English applicants, who may have felt that we were a bit too cautious about having members in another country, the friendly rival of our own. I can only say that our name expresses our purpose, and it is our earnest desire that our first European Branch be established by Englishmen, in England.

There is little sense in criticising authors and artists. Morey's February cover is one of his best, and the first illustration for "The Racketeer Ray" is an interesting departure from his usual style. In the *Quarterly*, Taine was superb, as ever. AMAZING STORIES, if somewhat slow and reserved, remains the aristocrat of scientifiction, where science is more than a thread on which to hang an author's puppets.

P. Schuyler Miller,
302 So. Ten Broeck St.,
Scotia, New York.

(We are sure our readers will enjoy reading a letter from one of our highly esteemed authors. It tells its story so well and at such length that it requires no comment from us.—EDITOR.)

A TRIBUTE TO P. SCHUYLER MILLER. THE CAUSES OF SENILITY.

Editor, AMAZING STORIES:

After reading Jack Williamson's recent "opus magnum" entitled "The Stone from the Green Star," for the eighth time, I sat down, shut my eyes in meditation, and spent an hour contemplating his fallacious supposition of rejuvenation. It appears, from Williamson's story, that old age presupposes some idiosyncrasy or contamination of the glands, which may be abolished through the imbibing of some invigorating liquor, say for instance, buttermilk. On what hypothesis he bases this astounding conclusion, I have been at a loss to discover; inasmuch as the accepted concensus of opinion, originating from actual experiences, deviated in a bee-line to opposing facts.

"Old age is a glandular disease. Old age can be alleviated by neutralizing the poisons in glands. Old age is not compatible with the growing magnitude of the brain. Old age is unnecessary, especially in modern civilization."

Shades of Cagliostro, but that is truth! However, merely because all iron is metal, all metal is not iron; nor is all that glitters gold; nor are Williamson's panacea for old age verified by facts.

Primarily, the intrinsic cause of old age is due to sedimentary deposits in both the arterial and venous structure, this condition influencing the inelasticity common to old age. If the formation of these deposits is not checked, adjacent parts of the anatomy will inevitably follow, resulting in the deterioration commonly known as old age.

Now, the science of gerocomy teaches that *arteriosclerosis*—the clogging up of the arteries by chalky deposits—invariably precedes senility. That the elimination of these sedimentary deposits rejuvenate the body by regaining elasticity, Mr. Williamson evidently is not aware. Sedimentary deposits occurring in the system are analagous to calcareous incrustations which appear in boiler-tubes, with the difference that the latter are subject to cleansing. If a rejuvenating elixir is actually conceivable through some chemical ambrosia, then the chemical amalgamation of the ingredients of the alkahest enter into the realm of the imaginable.

So far as biological interpretation extends, corporeal senescence constitutes a major involution, in direct opposition of the evolution of the life-cycle, which transpires normally in the latter half of the third decade. By no means whatsoever is it possible to annihilate the progressively deteriorating stages of senility; the shrinkage of flesh; glandular defects, and venous ossification. By this, I do not mean to imply that prolonging life to at least 200 years is an absurdity; not, however, by any methods categorically similar to the suggestions of Williamson!

For the past three months I have been engaged in obtaining a protoplasmic formula for synthetic haemoglobin, contrasting the previously highly significant investigations of P. Schuyler Miller and Dr. Walter Elkington to the effect that vertebrate evolution recapitulates identical changes to be found in the blood. If successful, this unprecedented formula may increase the longevity of the human race to an astounding extent.

O Zeus! In writing this extensive anatreptic communication I have acquired the anathema of all writers—anapeiratic paralysis of the digits! A warning, I should think, to make the convolutions of the cerebellum squirm in an effort to accelerate the solution to my formula, so that P. Schuyler Miller may live five centuries continually producing stories like "The Arrhenius Horror."

Bernard J. Kenton,
416 Frankfort Ave.,
Cleveland, Ohio.

(We are glad to follow Mr. Miller's communication by this very appreciative letter from one of his admirers.—EDITOR.)

FROM THE AUTHOR OF "THE LAUGHING DEATH"

Editor, AMAZING STORIES:

About ten days ago I discovered a letter from you dated May 26, 1931, the letter reads:

"A correspondent speaks of a blunder in your story "The Laughing Death" where you indicate the Spaniard as not being of the white race . . . etc."

Frankly I do not remember any Spanish character in that particular story. My intelligence would certainly not permit such an error knowingly.

For many weeks I have been absent on a transcontinental camping tour 11,000 miles long, touching about all the important scenic points in the U. S. A. and a number in Canada and Mexico. That explains your neglected letter. I took the trip for pleasure and had as guests the entire way, five boys whose work at school, where I teach, had brought them to my attention. Our car was fast and powerful (8-cylinder Packard) which added to our comfort and enjoyment and enabled us to cover a large territory.

While encamped one night north of Malibu Beach and somewhere near Oxnard, California, I strolled along the highway after the sound of the booming waves had put the boys to sleep. I came upon a couple before a small umbrella tent brilliantly lighted by a gasoline lantern. The couple were bound for Reno, Nevada where things were on "the up and up" and where he expected to get started in electrical work. He was lying on his stomach on the sand reading an AMAZING STORIES—April issue—just finished the "Laughing Death." We got to talking about the story and how it left the fate of the characters in uncertainty. In the moonlight there, with bits of seaweed about our feet, I told him how a writer might clarify the situation and when I was through the impromptu narrative, he spat into the water and said:

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Stephen Hale,
6428 N. Fairhill Street,
Philadelphia, Pa.

(Perhaps those of our Spanish readers who were hurt by the mis-statement which should never have passed the proofreader, will be more kindly disposed to you again and will look forward to your sequel to "The Laughing Death," which we hope to publish beginning in the May issue.—EDITOR.)

AN ENGLISH CRITICISM OF COLLOQUIAL "AMERICANESE"

Editor, AMAZING STORIES:

Although the prospects of publication of this critical letter are, I suppose, somewhat nebulous, as a reader of AMAZING STORIES since its inception, I feel it my duty to register a protest against the ever-growing avalanche of slang in your stories.

I will not presume to draw your attention to the requirements of good English, or of literature in this connection, as others have already done so in the past. I simply state as a fact that ever since Dr. E. E. Smith, in his "Skylark" stories, utilized slang conversation requiring one of his own "mechanical educators" to understand, his example has been aped by an ever growing number of contributors to your pages.

I do not wish to penalize Dr. Smith unduly. I have no other fault to find with his truly unique stories. I wish I could say the same for some of his disciples.

The crowning travesty, however, which has inspired this letter, appears in your December issue, and is entitled "Sky Cops."

To begin with there is not even one vestige of science to redeem this tenth rate tale, unless you call ready-made space fliers and the usual unexplained rays "science." I do not, anyway.

I do not care whether Mr. Harl Vincent is a successful author or not. I should not think he has built up his reputation by such potboilers as this. Take for instance the absurdity of the Sergeant deliberately releasing the arch-bandit from the handcuffs, whilst swearing to search the whole solar system for him afterwards. Why not have taken his captive with him? This is assuming there was only space for two in the machine. Otherwise he could have taken the Captain as well. Believing as he did that the whole crew of the mother ship was in Rolenski's pay, surely the presence of two helpless and much wanted men would not appreciably increase the odds against him.

Possibly, however, Mr. Vincent considers that in the distant future, wherein his story is placed, world atavism is gradually setting in. This would appear to be indicated by the low standard of education of the major portion of his characters, and the officers and their subordinates. Mike not only criticizes the orders from his Captain, but emphasizes his own views by spitting in disgust. Here, therefore, we have a possible explanation of the spitting, swearing Sergeant's childish mentality.

I do trust that something will be done to check this deluge of crude illiterate phraseology, and that all such disgusting matter as spitting, etc., will be ruthlessly cut out by the Editorial pen in future.

One last appeal. Surely by all known data it is an extraordinary thing to postulate, as in "Sky Cops" and others of that ilk, that slang will remain completely unchanged in the remote future. I personally find it impossible to imagine that in thousands of years time, our revolting, but fortunately extremely hypothetical friend, Sergeant Mike, will be giving utterance to such well-worn, and rapidly passing words as "Attaboy, Yeah, Bum, Lousey, Okay, Big boy, You guys, etc., etc."

Yours is easily the best magazine of its kind, even with all these defects. But how can you be surprised at its condemnation as trash by those who do not know your publication, and casually purchasing a copy, commence reading such puerile, valueless rubbish as a story like "Sky Cops"? Stop the spitting, etc., complex, anyway, if you will not do anything else, please.

J. Smith,
52 Castle Street,
Liverpool, England.

(It is fair to say that with the exception of this very severe letter, our English correspondents have treated us very well. We felt that "Sky Cops" was an excellent story, it was so full of action and the end came so unexpectedly. Harl Vincent is an electrical and mechanical engineer holding a high position with one of the great electrical companies of America. He has made a very great success as an author of short stories, having published a great many during the last few years. As regards slang and the Sergeant's language, the author had to use slang of the present day, for nobody knows what slang of the future will be, but remember that you must not think that the United States is given to slang. It is fair to say that in this country you may not hear a word of slang for weeks or months in some quarters. Poor America has sins enough to answer for without this one.—EDITOR.)

A LETTER OF CRITICISM, DIFFERENT QUITE FROM OTHERS

Editor, AMAZING STORIES:

I have just finished reading the "Discussions" of the January issue. Up to the letter by R. E. Bowland, Jr., it was dull and uninteresting. But there sparks began to fly and most letters following kept it up. Bowland, Jr., took a grand slam at those asking for reprints, saying that magazines which had reprints have weak-kneed editors, and also stating that "AMAZING" is a truly ideal magazine. Why not reprints? Of course, Mr. Bowland wouldn't want any because he read the magazine since it started, almost. A good idea I think would be to have a special edition containing reprints, as you have suggested. Those who didn't want reprints needn't read it. Better still, print 'em in book form, so they can be kept in bookcases. As for "AMAZING" being "Truly ideal," I'll say it isn't. If it was, Paul would be the chief artist. Also there would be stories by Flagg, Merritt, Verill, Flint, Taine, Cummings, Tiffen, Rousseau, Douglas, Hall and others. Also there would be full page illustrations and not half page ones as most of them really are. A good illustration was for the story by Paul H. Lovering in the January issue. But alas! there are more of these things. F. J. Ackerman declares that "AMAZING" was good until recently. He's wrong. It has not been good for over a year. Where is Wells, the good old Keller stories, the old full page illustrations, the time when there were eight or nine stories in each issue, when science talks were given over WRNY? Gone, gone forever, unless AMAZING peps up. With all the suggestions from readers no change nor steps are taken of a new department. Just an "We are thinking about it" or "We admit it is not a bad plan" yet nothing is done. Another magazine has changed back to large size, got better paper, took on a large staff and used that great artist, Paul, almost always and has a form to sign your name and send in, a petition for scientific movies. (Several pictures have started because of this movement.)

Mr. Sam Springs, of Glendale, Calif., says that he likes stories discussed that are not too old, yet goes ahead and tells us what he thinks of stories, as far back as October, 1930.

At least, I agree with you that women in stories are necessary if not dealt with too much.

Mr. Rowderhill, of England, says that a few stories apart from science would be welcome. Please do not print stories that are not scientifiction. If he is desirous of other kinds of stories, but still "AMAZING," he should read other magazines.

Why not more by Kateley. He is good. Let's have drawings by Muller. Paul is swell, perfect. Wesso I rate next. Morey is last, although starting with the December issue his covers have become quite good. The inside illustrations of the January issue were among the best ever by Morey. The one for "Inevitable Conflict" deserved to be a cover. It was one of the best I ever saw—(including Paul's work, too). If you keep this up "AMAZING" might return to its old peak.

Louis Robert Adessa,
18710 Wyoming Avenue,
Hollis, New York.

(It is a long time since we have given any of H. G. Wells' stories as we have already published the best works by him. Dr. Keller still writes for us. We feel that full page illustrations are objectionable to a certain extent because they take up so much room. We are a little disinclined to do anything that will crowd out the reading matter. That, according to our correspondents, is what they want most. We happen to know from good authority that the signed petitions for science fiction movies had nothing to do with their production. The stories are what count.

A LETTER FROM THE CANAL ZONE. HOW READERS TAKE SCIENCE IN FICTION STORIES.

Editor, AMAZING STORIES:

Upon receiving a new copy of AMAZING STORIES I turn to my favorite, the "Discussions" column, almost before I have finished the stories. I have always found this to be the most interesting part, perhaps, of the magazine, for in it are portrayed the reactions of the readers to the various ideas presented by their favorite authors.

Since I first commenced reading scientifiction it has been my habit to compare diligently the various magazines that use this type of story. For a long time A. S. was the only one that followed it entirely. Several others occasionally published stories of a scientific, or "super-scientific," nature, but A. S. stood on a pinnacle of its own. My preference for it is based on the fact that it presents known scientific facts in an easily assimilative form, while its stories, written in a delightfully breezy and adventurous manner, contain plenty of science and are therefore very instructive.

Other so-called "scientific fiction" magazines I have in mind are "Strange Tales," "Wonder Stories," and "Weird Tales." I say "so-called," for these magazines attempt only to have a sketchy scientific background to their yarns. Take "Strange Tales," for instance; its stories run to stirring action, usually with a strong and not always too well done love-theme, but with only the most meager amount of science. Whenever a story contains more than this mere trifle of technical stuff, its readers immediately set up a howl, in the department that corresponds to "Discussions." To my mind that reaction smacks of a preference for trashy, light reading.

"Wonder Stories" is a bit better; I consider it a cross between A. S. and "Strange Tales." Occasionally it shows a few glimmerings of sense, particularly when it publishes the stories translated from the German secured during the last few months. As for "Weird Tales," I can only say that I consider its attempts at scientifiction a collection of fantastic nonsense, although when it sticks to its regular type of occult story it is unsurpassed. I prefer A. S. because I can not only learn something from its pages but because if one were to remove from the others the tiny amount of science they contain they would become merely the mediocre "junk" one can see in fifty other magazines on any newsstand.

I cannot say that I have any favorite on your staff of authors. The men who turn out the stories for A. S. are so uniformly excellent that it is indeed a difficult matter to pick between them. While I may not always like the plot of a story, or the ideas it presents, I almost never find any fault with the literary style, or method of presentation. My reading of scientifiction is purely critical and observing.

One more thing, although I fear this must be a "brickbat." In the July and August issues appeared "The Raid of the Mercury," and "The Superman," respectively, by A. H. Johnson. These were very fine stories, well written, and with good science, but they most evidently had their inspiration in "The Iron Heel," by Jack London. Plagiarism is a harsh word, but while hestitating to use it here I would suggest that Mr. Johnson be a bit more careful in the future. His use of the "Black Croup," for instance, the "Mymidons," and the "Plutocracy," as well as a basis plot of an aristocracy of wealth and leisure as the future despotic rulers of this country, check a trifle too closely with the "Black Groups," the "Mercenaries," and the "Plutocracy" of Jack London's tale!

Richard Rush Murray,
Detachment 11th Signal Service Co.,
Panama General Depot,
Corozal, Panama Canal Zone.

(Our effort, and it is not an easy one, is to get a good amount of science into our stories. We do find that science impairs the appreciation by our readers and we can assure you that the getting of stories with a reasonable amount of science in their plots has proved a very difficult matter and one which assumes more and more importance from the editorial standpoint. We are very glad to hear you say that you have no favorite on our staff of authors. Mr. Campbell, for instance, has proved a great favorite. We will leave the answer to your remarks on Mr. Johnson's stories to the author. It would be interesting to see what he has to stay about them.—EDITOR.)

THE LIGHT RAYS OF THE COSMIC UNIVERSE

Editor, AMAZING STORIES:

I've been reading AMAZING STORIES for about one year and for the kind of stories they are supposed to be they are all O.K.

Now I would like to know more about bent light. Suppose that this world is surrounded by suns all on different sides and the rays are shooting at us from all different directions. The suns are bombarded by each other as well as ourselves. Now, how could the light reach us traveling at the rate of 186,000 miles a second through all the interference of the other light rays; their interference would cut down the speed of each sun's rays till the speed would amount to nothing by the time they reach us, and our earth throws out rays to meet them, so how could rays be bent around us or any other star? I know if you put a stick in flowing water, the water flows around it because the water is all flowing one way, but if you put the stick in a tub of water the pressure is from all sides and it is not bent. Please answer this in your "Discussions" columns, as there are quite a few of us interested in the subject.

T. A. Jones,
85 Jefferson Street,
Phillipsburg, N. J.

(Light rays are not changed in their velocity by the interference of other light rays. The rays which bombard the earth are trivial as regards the stars and celestial objects with the exception of the sun and the moon. The moon gives us a little radiation, but the sun, it is, which takes care of our temperature. Its radiations are not troubled by those of the stars, so if you will concentrate your thoughts on the fact that the practical state of affairs is that the sun takes care of the temperature of the earth and that the moon as a reflector throws a small proportion of the light of the sun on the earth and forget about the millions of stars which are so far away that they give us a very minute amount of heat and can be really left out of practical consideration, you will get a pretty good common sense state of affairs.—EDITOR.)

THE QUESTION OF ARTISTS, CRITICISM OF "SUBMICROSCOPIC" AND "AWLO OF ULM"

Editor, AMAZING STORIES:

This is the first letter which I've written to your magazine and I hope it will be the only critical one.

To start with the cover, I may say that it is rather too garish to appeal to the truly scientific individual, and although I have no such criticism to make, a great many people brand the magazine as being pseudo-scientific because of the impression derived from the cover. Pertinent to the cover question is the old dispute about the artist. Paul is or was undoubtedly your best illustrator, this can't be denied. However, I see that Paul does all the illustrating for another magazine in the same field as A. S. so maybe you can't get him for your magazine. If so, I see the reason for your defending Morey and Wesso so valiantly. These may sound like rabid criticisms, but I'm not alone in these thoughts.

Criticising the stories is a fruitless expenditure of time and energy because to people of widely different temperament and mentality, different stories have their varied interests and faults. However, a person who could swallow a story such as "Submicroscopic" and its sequel "Awlo of Ulm" without a murmur of criticism cannot be of very intelligent or penetrating mind. The story might appeal to the jaded appetite of an over-studious moron, but to one who boasts the least scientific knowledge the story must be distasteful. You will probably say that I took the story too seriously, but the too abundant impossibilities spoil even the few original ideas which lend interest to any tale.

As for the other stories which you print, none merit the criticism that Meek's story does. In fact most of them are instructive and all are at least of interest to the readers.

You say that Meek is a scientist himself, yet he has published under his name "Submicroscopic" and "Awlo of Ulm," and after these two numerous brickbats, I can add, long live A. S., and I'm always with you.

E. S. Barghoon, Jr.,
625 Harmon Avenue,
Oakwood, Dayton, Ohio.

(You may be sure that your letter will not be the only critical one. We get lots of letters

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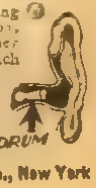

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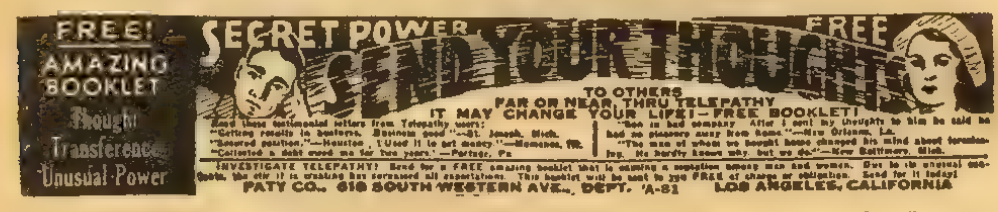
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of critical men. It is perfectly logical to say that the attempt to please thousands of readers is bound to fail with some few, and the best we can hope for is to please the majority and that we are sure we do. What we have said about Morey and Wesso expressed our thoughts and convictions. An artist drawing for AMAZING STORIES, naturally has to appreciate the atmosphere. As far as Captain Meek's stories are concerned, he has written us about them and you will find his letter in the "Discussions" columns of the March issue.—EDITOR.)

SOME COMMENTS OF MR. GELULA'S AUTOMATON. A CURIOUS PICTURE OF THE FUTURE.

Editor, AMAZING STORIES:

No doubt that daily you receive letters from the readers of the AMAZING STORIES—and after reading the magazine for a long, long time, I think it might be a good idea to drop you a line.

I just finished reading the "Automaton," by A. J. Gelula.

The "Automaton" is similar to "The Iron Age" story—but I would say that both stories were incomplete. The "Iron Age" was good to some extent—because it explained at the end how machines could get control of the human race and could possibly destroy it.

In "Automaton," Mr. Gelula reached the real point—he did hit the right spot—as his idea is not a tale—his idea is a real coming invention—which is progressing much faster than any inventions we could think of.

The "Automaton" is in existence today and it is really able to perform everything—it can read, write, talk—only it does not reason, nor is it able to think, but this is not very far away.

Men invented machinery to do almost anything, read, write, talk, which already works in duplicate and when man perfects it, when machines will be able to think and reason, it will then be the end of the human race, which already happened in the past and will happen again.

The machine will rule the world, will destroy the human race and at the end will die out itself—which will be again the new beginning of the world of a new race, from a tiny bug up to another stage where we are today—but this takes millions of years—perhaps less or more.

When Automaton reached the stage as it did in Mr. Gelula's story—which it will in time—the automaton will refuse to obey the men, it will declare a war on the human race—destroy it, then it will fall to pieces itself, because humans generate one from another starting small and growing bigger and getting accustomed to climate and mode of living, but here the automaton will fail—because it stands still and change of climate will destroy it.

We are well aware that climate shifts and in years and years from now the North Pole will be a tropical country.

This is my idea of what future has in store for us. Also it is my best reason out of how it happened in the past which we will call the "Lost Civilization."

John Andrews,
2239 Adams Place,
Bronx, New York.

(You take the idea of the Automaton or robot more seriously than we do and we will let your letter speak for itself.—EDITOR.)

THROWING AN OBJECT IN A MOVING TRAIN—WHAT WILL ITS VELOCITY BE?

Editor, AMAZING STORIES:

I have read your magazine for some years and I find it as good as it could be. One of the features I like best is where you settle questions that are asked you from time to time, and that is the main purpose of this letter, to ask a question.

If a man in a train throws an object 60 M.P.H. the same direction as the train which is also going 60 M.P.H., what is the velocity of the object thrown?

I say 120 M.P.H. and I think I am right, but my friend is insistent that I am wrong.

I hope you can settle this.

Jesse H. Day,
431 Garing Street,
Portland, Oregon.

(Your statement of the velocity of the object thrown in a moving train is perfectly correct.—EDITOR.)

"THE SKYLARK OF SPACE" WANTED. DETECTIVE STORIES NOT FAVORITES

Editor, AMAZING STORIES:

I first started your magazine when you were printing the Jules Verne story, "A Trip to the Center of the Earth," and Burroughs' "The Land That Time Forgot," but I didn't care so much for them.

However, about a year ago I got an old copy containing the second part of the "Skylark of Space." Boy, what a story! But I could not get the other parts; however, I got the sequel and all the other issues up-to-date, so no more missing instalments. I'm a confirmed—I almost said addict, but I guess "admirer" is a better word. Anyway, I'm a steady reader.

I am like some of your other readers, I don't care much for love stories in science fiction, but "Spacehounds of IPC" cured me. Can't you coax Smith to give us a sequel and another "Skylark" story.

That Epilogue seems to worry some of your readers, but it is the simplest part for me.

Says the Epilogue, "Dear Children, this all happened in the year one, when your ancestors were young and foolish." Now just write a nice little prologue saying—"This, dear children, is another story about your illustrious ancestors," and everything will be "jake." In other words, you write the story and I'll tell you how.

I don't think much of detective stories in your last few issues. I'm not keen on detective murders, anyway. I'd rather kill a few Martians, and that Chinese doctor is too gruesome for words. The "Steam Shovel" was not so bad, but the "Ambidexter" sent cold shivers all over me.

Is there any chance of getting the August, September and October, 1928, issues containing the "Skylark of Space," through your office, or has it or will it be produced in book form?

E. M. Knox,
156¼ West 39th Street,
Los Angeles, California.

(If you look through recent issues of the magazine, you will find correspondents who have back issues of the magazine in their possession and we hope that you will be able to get some back issues from them. We are unable to supply from our files any old issue. We use detective stories when they involve some good science only, and if you will look them over you will find that those which we publish are scientific detective stories.—EDITOR.)

A VERY KIND APPRECIATION OF AMAZING STORIES.

Editor, AMAZING STORIES:

I am safe in saying that I am one of the oldest readers of A. S. without having a letter printed in your "Discussion" department. I have no brickbats to throw, for all your stories are above that.

All my comments are favorable to A. S.

Names of authors mean nothing to me. I do not judge stories by their originators; I read the stories and judge the authors by their work. In the February issue, Carlyle Bessette claims in his letter, that he didn't buy the Summer Quarterly, because he didn't approve of Coblentz stories. Such an idea is the most absurd I have ever heard. No offense meant to Mr. Bessette.

In one of your copies (or rather several published some years ago, you ran a serial "The Second Deluge." I consider it one of the best ever printed by you. Why more like this are not printed I cannot say; for they certainly would be appreciated.

I do have a bone to pick with several "Discussioners." These readers claim the stories printed in the past do not compare with present ones. In my opinion copies years ago compare favorably with the present ones.

The stories of A. S. are well mixed. In each issue I find stories of no one nature predominant, which, therefore, should appease everyone's tastes.

One author I would like to see in your fold is Ray Cummings; he certainly has that "touch" that carries a punch.

Always a booster,
John Kingsmore,
5936 Colgate Street,
Philadelphia, Pa.

(It sometimes seems to us that in the light of some of the criticisms which we receive in all humility, we should hardly publish such warm appreciation as appears in your very kind letter. Mr. Coblentz is a well-known author, a poet and a critic in one of the Sunday Magazines that go with the Daily papers. We consider him a very high grade author. He has published a book of poetry and we have had the pleasure of using his poetical work in our columns. We hope you may yet see some of Ray Cummings' work.—EDITOR.)

"RESULT OF AN IMAGINATION RUNNING WILD." THE HEAVYSIDE LAYER.

Editor, AMAZING STORIES:

Be prepared for the worst! You shall now feast your eyes upon the result of an imagination running wild. Inventors, authors, and editors have strong imaginations, so you can't very well call me thoroughly insane. Call it a very short, short story, without plot or reason if you like. There might be some facts in it, so here goes.

The uppermost layer of the Heavyside Layer is an area of very minute particles of frozen hydrogen. As you probably know, compressed hydrogen in a frozen state has all the characteristics of a metal, having a silvery, lustrous appearance. That's where the reflection of radio waves comes in. Gravity at the North Pole is very strong because of no centrifugal force, causing a much thinner layer of protecting atmosphere, hence the cold. The particles of frozen hydrogen are much more crowded there, and the sun's rays striking the frozen hydrogen produce an abundance of colors. Hence the Aurora Borealis.

Well, that's that. Regarding the January issue of A. S. (this is not more imagination, so keep on reading), with only a slight mistake here and there, why it was one of the best issues I have had the pleasure of reading. In the story "Power," Scott Terris quickly pulled out of a terrific dive without experiencing temporary blindness which would have been the case in real life.

I am all a-flutter waiting to meet "Troyana," and I hope she's as good as her predecessor, "Drums of Tapajos." Don't disappoint me Captain.

Keep up the fine policy of A. S., and hang on to "Doc" Smith. List me as one of the thousands yearning for the return of Seaton and Crane. How about the "Skylarks" in book form?

Joseph W. Buck,
1418 So. 48th Court,
Cicero, Illinois.

(Your views about the Heavyside layer are original, to say the least. Net gravity at the North Pole is only slightly greater than at the Equator. Your views about the low temperature at the North Pole are also quite original, and the same can be said about your theory of the Aurora Borealis. We are sure that you are pleased with "Troyana." We are still hoping to see "The Skylark of Space" in book form.—EDITOR.)

A TRIBUTE TO, AND CRITICISM OF, THE STORIES WE PUBLISH

Editor, AMAZING STORIES:

I greatly enjoyed your recent story called "Spacehounds of IPC," and hope you will give us more of the same kind. I like the simple straightaway narrative style in which it is written. I believe that your readers are more interested in interplanetary tales than in any other kind. I deplore the stories you sometimes publish, which are full of grammatical errors and written in an obviously juvenile style—apparently by people who have had no training in writing. Fortunately, they are few in your magazine. Neither do I like stories that reek with the most awful human suffering. I greatly enjoy the clever pictures you run, and wish there were more of them.

Bertha Gordon.
4325 Champlain Ave.,
Chicago, Ill.

("The Spacehounds" was certainly an excellent story and it proved to be quite a favorite. Our pages are edited and proofread carefully, but we suppose we are not infallible. Just the same, we'll try to do better, if we've let a lot slip by. If we put in more pictures there would be less text and that is certainly one of the reasons that induces your criticism.—EDITOR.)

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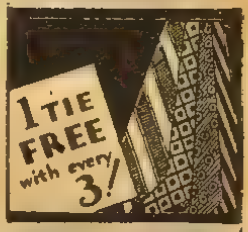

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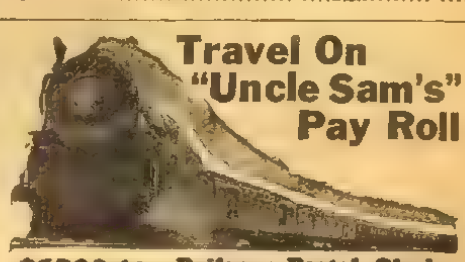

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They gave me the "ha-ha" when I offered to play

... but I was the life of the party after that

THE first day of Dorothy's house party at her cottage on the shore had been a huge success. With an afternoon of swimming, boating and golfing we were all set for the wonderful dinner that followed.

"Well, folks," said Bill enthusiastically, as we were leaving the table, "I don't know how you feel, but I'm all pepped up for a good dance."

"Fine!" cried Dorothy. "Dick Roberts has his banjo and can sure make it hum. Now who can play the piano?"

Instantly the laughter and merriment ceased. All looked at one another foolishly. But no one said a word.

"How about you, Jim, you play, don't you?" asked Dot.

"Yes, I'll play 'Far, Far Away'," laughed Jim.

"Well, then, Mabel, will you help us out?"

"Honestly, Dot, I hate to admit it, but I can't play a note," she answered.

It certainly looked as if the party were going flat. Plenty of dancers but no one to play.

Then I Offered to Play

"If you folks can stand it," I offered shyly, "I'll play for you."

The crowd, silent until now, instantly burst out in laughter.

"You may be able to play football, Jack, but you can't tackle a piano."

"Quit your kidding," cut in another. "I've never heard you play a note and I've known you all your life."

"There isn't a bar of music in your whole makeup," laughed Mabel.

A feeling of embarrassment mingled with resentment came over me. But as I strode to the piano I couldn't help chuckling to myself when I thought of the surprise I had in store for them.

No one knew what to expect. They thought I was about to make a fool of myself. Some laughed. Others watched me wide-eyed.

Then—I struck the first snappy chords of that foot-loosing fox-trot, "St. Louis Blues." Dick was so dumbfounded he almost dropped his banjo. But in a flash he had picked up the rhythm and was strumming away like mad.

Although they could hardly believe their ears, the crowd were all on their feet in a jiffy. And how they danced! Fox-trots, waltzes—with rests few and far between.

After a good round of dancing I decided to give them some real music and began a beautiful Indian love lyric.

The couples, who but a moment before had been dancing merrily, were now seated quietly about the room, entranced by that plaintive melody.

No sooner had the last soft notes died away than I was surrounded by my astonished friends. Questions were fired at me from all sides.

"How wonderful, Jack! Why haven't you played for us before?"

"How long have you been studying?"

"Why have you kept it a secret all these years when you might have been playing for us?"

"Who gave you lessons? He must be wonderful!"

I Reveal My Secret

Then I explained how some time before I made up my mind to go in for something besides sports. I wanted to be able to play—to entertain others—to be popular. But when I thought of the great expense and the years of study and practice required, I hesitated.

Then one day I ran across an announcement in a magazine telling of a new, quick and simple way to learn music at home, without a teacher.

I was a little skeptical at first, but it was just what I wanted so I sent for the free booklet and demonstration lesson. The moment I saw it I was convinced and sent for the complete course at once.

When the lessons arrived, I started right in, giving a few minutes of my spare time each day. And what fun it was—even from the very beginning. No monotonous scales—no tedious exercises—no tricky methods—just a simple common-sense system that even a child could understand. And best of all, I was playing my favorite numbers almost from the start.

Anyone can learn to play this easy no-teacher way—right at home. The piano if desired; or any other instrument that you may choose. Over 600,000 people have learned to play by this simple system in less than half the time it takes by the old-fashioned methods. And regardless of what instrument you pick, the cost averages only a few cents a day.

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